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ABSTRACT

This document summarizes the proceedings of a national forum for persons with an interest in and commitment to research into issues affecting people living in rural and remote areas across Australia. The six sub-themes of the conference were: (1) the role of the community in teacher preparation; (2) the quality of education in rural Australia; (3) the role of the community in crisis; (4) creative responses to teaching and learning in rural Australia; (5) the remote Aboriginal Education Project; and (6) educational opportunities in post-compulsory education. A workshop format was adopted for the conference supplemented with keynote addresses and position papers. The product of the conference was a series of research proposals which address the sub-themes and which could be commissioned or encouraged by the Association or its members. Five keynote addresses, 9 position papers, and 14 research proposals are reproduced in these proceedings. A listing of conference participants is also included. (LP)

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EDUCATION, EQUITY AND THE CRISIS IN THE RURAL COMMUNITY

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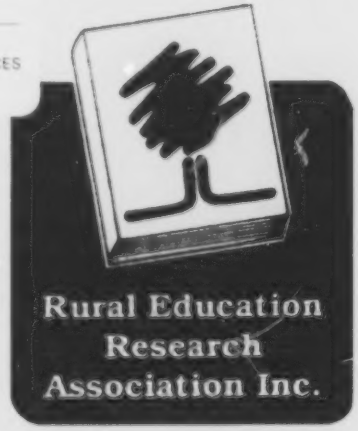

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EDUCATION, EQUITY AND THE CRISIS IN THE RURAL COMMUNITY

Proceedings of the
Rural Education Research Association Conference

Alice Springs
February 1992

Editors: J M R Cameron and D A Griffith

J M R Cameron and D A Griffith (eds)
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FOREWORD

I am delighted to write this foreword to the Proceedings of the Rural Education Research Association National Conference 'Education, Equity and the Crisis in the Rural Community' held at the Red Centre Resort in Alice Springs on 15-19 February 1992. We are indebted to the Northern Territory Department of Education for hosting the conference and to Jim Cameron, Dennis Griffith, Wendy Heron and Sue Mihovilovich for their efficient administration.

This was the first national conference organised by the Rural Education Research Association whose aims are worth emphasising in this foreword. They are

- to establish a communication network for a diverse constituency of institutions and people who have an interest in and commitment to research into issues affecting people living in rural areas across Australia;
- to be concerned with research associated with education for all school, post school and adult students living in rural areas;
- to support research which is broad in its methodology and range of questions;
- to develop and maintain a database relating to research and development in rural education; and
- to establish contact with similar associations overseas.

The executive committee of the Association, representative of all states and territories, wished to ensure specific conference outcomes, through a largely workshop format. The tasks of the workshops were to:

(a) define research needs within each workshop topic;
(b) identify the researchers required to conduct that research;
(c) determine the most appropriate locations to undertake that research;
(d) identify a strategy and a source for obtaining funds.

The workshops were supplemented by a number of keynote addresses.

The combination of workshops, fed by relevant addresses, worked exceedingly well. Everyone in the workshop groups applied themselves enthusiastically to their tasks, and the five addresses were thought provoking and to the point. The conference did achieve the outcomes which it had foreshadowed. These outcomes can be read in the succeeding pages. I left the conference feeling that the Rural Education Research Association had been firmly established and had an important role to play, not only in developing and supporting research in rural education throughout Australia, but also in contributing to policy making associated with rural education at both a state and national level.

I should finally wish to acknowledge our gratitude to the Northern Territory Minister for Education and Training, the Honourable Shane L. Stone, for opening the conference and Mr Geoff Spring, the Secretary for Education for the Northern Territory, not only for his conference address but also for his support, which made the conference possible.

Jack Walton
Norwich, England

INTRODUCTION

The Rural Education Research Association had its origins in the 'Think Tank' on research into rural education held in Townsville in June 1990. The 'Think Tank', hosted by the Rural Education Research and Development Centre at James Cook University and chaired by Professor Jack Walton, brought together sixty five people from across Australia who identified a range of research priorities in rural Australia relating to schooling, educational delivery and community life. To ensure that these priorities were acted upon, the participants determined that a consortium should be established to bring together community groups, parents, teachers, students, industry representatives, rural service providers, and all others with an interest in research into rural education.

Following the 'Think Tank', representatives from the various states and territories, as members of a steering committee, held a series of teleconferences to discuss the formation of a consortium. The Queensland Department of Justice accepted a constitution to incorporate what is now the Rural Education Research Association Inc. To ensure that it has a national perspective, the Association is managed by an executive committee of sixteen people, two people representative of each State and Territory.

The Association conceived its first major task to be the holding of a national conference as a forum for persons with an interest in and commitment to research into issues affecting people living in rural and remote areas across Australia. The conference theme, 'Education, Equity, and the Crisis in the Rural Community', reflected many of the concerns expressed at the Townsville 'Think Tank'. Six sub-themes were identified:

- The Role of the Community in Teacher Preparation;
- The Quality of Education in Rural Australia;
- The Role of the Community in Crisis;
- Creative Responses to Teaching and Learning in Rural Australia;
- The Remote Aboriginal Education Project;
- Educational Opportunities in Post-Compulsory Education.

The conference was designed as a working conference with the product being seen to be as important as the process. As Jack Walton indicates in his foreword, the product was to be a series of research projects which addressed the sub-themes and which could be commissioned or encouraged by the Association or undertaken by its members. To that end, a workshop format was adopted. Keynote addresses provided a broad framework for the conference, while workshops on the six themes, supported by one or more position papers, identified possible research tasks. The addresses, the position papers, and the resultant research proposals are reproduced in these proceedings.

Alice Springs was selected as a venue, in part because the Northern Territory Department of Education and the Northern Territory University volunteered their support. Just as importantly, however, Alice Springs is in the heart of the continent and equally distant and thus equally remote from all major population centres. In retrospect, the choice was an inspired one. The 'Centre', as it has done so often in the past, worked its magic again, despite or perhaps because of the heat, so that the outcomes exceeded our expectations.

Jim Cameron, Northern Territory University
Dennis Griffith, Northern Territory Department of Education

Conference Opening

The Hon Shane L. Stone MLA
Minister for Education and Training, Minister for Public Employment, Minister for the Arts and Acting Minister for Tourism

It is appropriate that the Rural Education Research Association should conduct its 1992 conference here in Alice Springs. It is appropriate not because Alice Springs is a community which most Australians would describe as being typically rural. Remote - maybe, beautiful - certainly, but to the average Australian from a coastal town or city, the Alice is far beyond any usual extension of the term 'rural'.

It is a fact that most Australians have no concept of the size of their continent. For the vast majority, rural issues have no relevance. Last century, it was a different story. In those days, the rural population was large. It generated much of the wealth and had a large slice of the population too. The claim that Australia rode on the sheep's back was not an exaggeration. Governments would stand or fall on rural issues and were extremely responsive to them.

Today, between the Commonwealth and all the State and Territory Governments of Australia, only one government has remote or rural issues thrust before it on a daily basis - whether that be in the area of roads, education, health or law and order. That government is the Northern Territory Government which, as a result, has become the focus of discussion and study in relation to rural and remote people and their communities. It's not that we're prone to self-congratulation or that we have armies of heavily resourced researchers all overcome by the local landscape and excited by the study of rural and remote issues. The fact is we experience remoteness in our daily lives. We are a rural community in every sense of the word.

I have travelled some 1700 kilometres to be here with you this evening and I will go back tomorrow and think nothing of it. As a solicitor here in Alice Springs I would travel to my branch office in Tennant Creek some 500 kilometres away to see clients and then return home, completing a 1000 kilometre trip in a day and think nothing of it. In that sense all things are relative.

The leading role in rural study is being taken up by Territorians because, unlike the other States or Territories, or the Commonwealth itself, that is the way our society is oriented.

Most Federal politicians shake their heads and tell you the Territory is a strange place which they just cannot understand. In the constituencies they serve, the rural and remote population are overwhelmed by urban issues. At every turn there are far more powerful lobby groups driving the agenda and taking the focus. I'm not seeking to be provocative, but in Canberra,

or in any other State or Territory, a meeting of rural researchers such as this would be considered by the average person as relatively ho hum. The same meeting here in the Northern Territory is greeted with immediate interest. Here, you are addressing the issue central in many aspects of our daily lives and crucial to our future.

Lest my comments be misconstrued, I am not attacking Canberra in a political sense. Don't accuse me of Canberra bashing because it suits my political ends. Quite the contrary. I take the view it often matters little who is in power in Canberra and we have not always been well served by either side of politics when it came to remote and rural issues in Australia.

Tonight I am happy to stand aside from the specifics you're addressing, such as the need to provide secondary education to small isolated communities, or the recruitment and retention of teachers. Instead, consider the cost to Australia of the current system that fosters urbanisation and awards too much emphasis and resources to city-based issues. Where the preoccupation is with Melbourne and Sydney because that is where the majority live, that is where the majority of MPs come from.

Yet the 6.5 per cent of Australians who live north of the Tropic of Capricorn produce 44.5 per cent of Australia's export income. How much more could this sector generate given a stronger Commonwealth commitment to funding and basic infrastructure? The north-south railway is an obvious example.

I was always impressed with the commitment of Gough Whitlam and Tom Uren to the decentralisation policy in the early 1970s, having originally come from Albury-Wodonga which, along side Geelong and Bathurst, were to prove successful examples of decentralisation. We seem to have swung back the other way.

It is true that an important key to Australia's future lies in unlocking the resources of the north. But the Territory's experience has been that far from providing a steady growth in funding, Commonwealth support has been regressing. In real terms, allocations to the Territory have declined significantly in a succession of annual budgetary cuts imposed from Canberra. I am having a shot in a political context on this occasion.

These are cuts the Territory is incapable of warding off. We have only one federal seat in the House of Representatives and so our ability to influence our future is somewhat restricted.

Ultimately, the savage irony for the Territory is that while we recognise the issues of importance in our area, power over the purse strings too often lies in Canberra.

On these occasions, we feel the same powerlessness that applies to rural communities in all parts of the country, whether that be in Western Australia, Queensland, Tasmania, outback New South Wales and South Australia.

Collectively, we're all that part of Australia dismissed and disparaged by political commenta-

tors as the 'rural rump' - the rural and remote areas that produce 82 per cent of Australia's exports.

Now the difficult task facing rural Australia is how to shake off the impact of that political powerlessness. We must strive for a greater national commitment to resources for rural areas. With more power from the engineroom, the benefits will flow on across the whole Australian community.

Back in 1988, the Territory Government began a push for Statehood - an event which, if realised, would have strong and positive consequences for all of rural and remote Australia.

In his introduction to the Statehood publication, 'Australia's Seventh State', Michael Maurice who later went on to become a judge of the Supreme Court in the Northern Territory summed up the problem facing rural Australia through the eyes of a Territorian. He wrote:

> Canberra never had a vision for the Territory - or if it did, the dream died generations ago. The Federal role consists of implementing specific policies in areas of special interest, not part of any comprehensive plan for the Territory and its citizens but a piecemeal tinkering increasingly resented by a population becoming anxious to shape its own destiny.
>
> Do not assume that all the issues that jostle for attention and must be considered by the Territory Government in determining its policies and priorities are given the same attention by the Federal political parties, by senior Commonwealth public servants or by special interest groups outside the Territory. A few of their number seem quite unconcerned about promoting divisions within the Territory community if it suits their purposes.

Maurice would be interested to hear discussions in this forum today, notwithstanding that he has returned to practice at the Sydney Bar as a Queens Council.

Like me, I'm sure he would be impressed by the recent studies coordinated by Dennis Griffith through his 'Project Rubicon', which he will be outlining over the next few days. Dennis' work is outstanding and shows a creative approach to the whole question of Commonwealth allocations to rural areas. Let me diverge a little to praise the work of Dennis Griffith and his unit who have painstakingly exposed the inequities imposed upon rural and remote Australia by Commonwealth bureaucrats. He is a credit to the Northern Territory Department of Education and Training and I take great comfort in counting him among my colleagues. Because of the database Dennis has developed, we are now in a position to analyse sources and the impact of funding in far greater detail. With or without the cooperation of those in Canberra, initiatives such as Rubicon will make radical change in Federal allocations inevitable.

Rural and remote Australia will only develop to its full potential if the population increases. Increases in population must be preceded by population stability and increased settlement. For this to occur we'll need to provide access to employment and services such as health and education.

The Territory Government has a proud record in Education. Certainly we had our disruption last year with the closure of schools and the increases in the teaching formula, but all things are relative and the Northern Territory education system needs to be seen in the light of what has occurred elsewhere in Australia.

Your input will be vital to further developing this policy and I'll be interested to hear reports of your progress. That is why I happily made a 3400 kilometre round trip to not only meet with you but to hear what you had to say.

I hope you enjoy your stay here in Central Australia. I lived for a short time in this town and came to love Central Australia with all its imperfections. I hope to meet each of you in person once the formal part of this evening is over and I wish you a successful conference.

Education, equity and the crisis in the rural community

The Honourable Warren Snowdon, MHR
Parliamentary Secretary to the Minister for Transport and Communications

It gives me great pleasure to speak at this conference but I must admit I come here with a slight feeling of trepidation.

In one way or another I have had some involvement in educational issues since I first came to the Northern Territory in 1975. Since then I have worked as a teacher, a researcher on education related issues, and now as a member of Parliament where I find education is always at the fore. So while I think I can say I am aware of many of the issues that you will be discussing at this conference, I certainly don't claim to know all the answers.

I would, however, like to make a number of observations about the task of providing educational services for rural and remote Australia.

While perhaps obvious to all of you here, I do not think it trite in the context of these opening remarks to remind ourselves that we are looking at the needs of a distinct section of the Australian population occupying a very large part of this continent. National goals are not inappropriate in the bush, but the way we achieve them has to be shaped to meet their particular environment. We are talking about people living in an environment shaped by the reality of distance, of small groups of people dispersed across an enormous area of our country. It is an environment shaped by variations in climate, variations in lifestyle and culture and different levels of access to resources. It is a physical environment where, for reasons of access, of supply, of social contact, of commerce and even of survival, a dirt track can be as important as a highway to someone in other parts of this country. The challenge is to ensure the programs are put in place and resourced appropriately to serve all those who live in remote Australia.

In the context of rural and remote Australia, there are four key elements to the provision of services. They are:

- firstly, the need for sound and rigorous research to provide the basic knowledge and understanding of what is required;

- secondly, the need to be innovative, to be prepared to try new approaches in our attempts to meet identified needs;

- thirdly, the ability to be flexible in the application of policies and practices when designing and implementing strategies and programs for our client groups, and

- fourthly, the need to build in sound evaluation strategies, to put in place the systems, the tools if you like, to ensure policies and programs meet real needs and to constantly review the effectiveness of our attempts.

And underlying these four elements is perhaps the most important principle, that of effective consultation with the groups we are targetting.

The notion of consultation is one which I believe has been too often grossly abused in the past. It is not, as some practices might have led us to believe, about 'telling' people what is going on. It is about entering into a dialogue that allows effective input from all concerned. In fact there are many who believe the notion of consultation has been so corrupted, and I count myself among them, that it should be consciously replaced by the word and concept of 'negotiation' as a far more accurate description of what we are really trying to achieve. And if we are about being effective in the provision of services based on genuine consultation or negotiation with the client groups, we must achieve a basic understanding, acceptance and respect for the notion of 'difference'. If we do not achieve that basic understanding and respect for difference in our dealings with groups and individuals throughout this country, all our attempts will, and I say this without the slightest shadow of a doubt, fail. We will fail to recognise real needs and we will fail to meet real needs.

Living and working in the bush places unique and quite special demands on service providers - who themselves work often to achieve goals which may be set at a national, state or territory level. The reality is that living and working in Elliott or Halls Creek, on a property in the Barkly or a mining community on Groote Eylandt or North Queensland, in an Aboriginal outstation in Arnhem Land or a small Aboriginal community around the Simpson desert - all provide their own differences and all are different from the western suburbs of Sydney or Melbourne. In my view, there thankfully have been significant changes in the way services are delivered in the bush. But we still have a long way to go.

I share the view of the Minister for Primary Industries and Energy, Simon Crean, that the primary sector must be developed to become the cornerstone of a more diversified, integrated and resilient economy. And that is only as it should be. I believe that for too long people in the bush have been taken for granted - even though they are crucial to the future of our nation. Three fundamental tasks must be tackled in realising the goal expressed by Simon:

- we must secure our agricultural and resource base;
- we must sustain it, and
- we must develop it.

As we are all aware, the rural sector is currently experiencing its worst crisis in living memory. The changes in the global economy have hit home at almost every station,

farm house and community in this country. The trade wars, international subsidy rows, shifting markets and changing market trends - in the bush we don't just see them on TV or hear about them on the radio, we know about them because they affect us as much or more than anyone else in this country. Bad economic times hurt, and nowhere more so than in the bush. Here in the Territory we have, to some extent, been cushioned in comparison to other areas, but we have still been hurt.

We have a job at all levels of government to keep our productive pastoralists and farmers on the land and to keep our mining communities stable. To do that we must not only provide income support measures - the social needs of people must also be addressed. This is what I mean by securing the base. In this context the Federal Government has commissioned a rural economic development strategy designed to guide the current and future federal governments in assessing and realising the potential of rural and remote Australia. This is complemented by a specific North Australian economic development strategy commissioned by the Minister for Northern Australia, my colleague Senator Bob Collins, and being undertaken through James Cook University.

While these issues are clearly important, the development of economic strategies cannot take place without consideration of the social issues that apply, especially here in Northern Australia. Much of the groundwork for providing an information and research base in this region of Australia was undertaken in the past by the North Australian Development Unit within the Department of Social Security. That base is now being built on with the formation of the Office of Northern Development within the Department of the Prime Minister and Cabinet and responsible to Senator Bob Collins as Minister Assisting the Prime Minister for Northern Australia.

It is worth reminding ourselves of the essential elements of the government's social justice strategy:

Equity, Equality, Participation and Access.

Of course, the provision and delivery of education in the North's remote parts is one major area being examined in the development of the strategy.

It is important that we provide the initiative and means for people to acquire the specialist skills that are required in every community. Certainly one of the most pressing issues in rural and remote Australia today is the fact that people in these areas have significantly lower rates of participation in education and training than their metropolitan counterparts. For example, only 54 per cent of non-metropolitan students complete Year 12 compared to 59 per cent in urban areas. Only 8.5 per cent of students from the bush obtain tertiary qualifications as compared to 11.2 per cent in urban areas. 3.2 per cent of rural students acquire higher education qualifications through TAFE and other institutions compared to 5.2 per cent in metropolitan areas. These lower levels of participation raise considerable concerns both on social and economic grounds.

In 1989 the Federal Government developed 'A Fair Go: A strategy for rural education and training'. Its aim was to address these concerns. The strategy emphasises three main objectives:

- to increase non-metropolitan school retention rates to Year 12 in line with the national objective of 65 per cent;
- to increase the transfer rates of students from school to post high school education to levels comparable to those in metropolitan areas; and
- to increase overall participation in education and training so that the proportion of the non-metropolitan workforce with qualifications after high school approaches the national average.

The need to improve education and training for rural Australians has been lent extra emphasis by the current economic climate and the considerable structural change underway in the rural sector. This environment intensifies the need for a skilled and adaptable rural labour force. Obviously this necessitates large scale training or re-training of the rural workforce to ensure there is a broader skill base. In February last year I launched a pastoral industry traineeship program at the Northern Territory Rural College in Katherine as one part of ensuring this skills base is developed. The Minister for Primary Industries and Energy, Simon Crean, launched the rural access program in December 1991 as a means of assisting Australians living in rural and remote areas to develop their training and employment opportunities as well as extending their health, information, social and other community services. I know here in the Territory there has been a special effort from women's groups to take advantage of this program with projects being undertaken at Humpty Doo, Alice Springs and at Daly River. It is vital to ensure that children in rural and remote areas are able to access a broad range of education and training opportunities to provide them with the widest possible choice in deciding on their future careers.

There are major barriers to overcome in achieving these objectives. Among the most significant is locational disadvantage, relating to physical distance from education and training facilities.

The issue of locational disadvantage has been the subject of special research which has been fed into the Government's economic development and North Australian social justice strategies. Often people living in rural and remote areas have no choice but to relocate away from their homes in order to access and participate in education and training. This in its turn throws up financial barriers - moving house or setting up a second town-based house is quite an expensive undertaking. While the boarding school option is also expensive, it is one chosen by many parents for their children. I have, in recent years, been happy to assist both St John's College in Darwin and St Philip's in Alice Springs in extending their ability to offer a boarding service for students from remote areas.

While locational and financial barriers are the main problems faced by rural and remote students trying to access education and training, the National Board of Employment, Education and Training has identified other factors which may play a part, including:

- lack of information about courses and programs offered in the tertiary sector, and
- lack of access to child care which particularly effects the ability of women to participate.

Inflexible administrative structures in educational institutions can also affect the access and participation of rural students. For instance, the timing of courses and program delivery does often not accommodate the distinctive features of rural life such as seasonal work cycles, climatic extremes and a geographically dispersed population.

Over the last decade, a wide range of initiatives aimed at improving education and training for rural and remote Australians have been implemented. There may still be a need to recognise that the provision of programs to students in rural and remote areas requires an additional allocation of scarce resources - and this may cause difficulties. There is a need for bureaucracies which have the responsibility of implementing policy to themselves not only be appropriately resourced but, especially in rural and remote areas, to have the delegations which allow them to be flexible and to cater for local needs.

The approach which holds that what is good for the goose is good for the gander may not be appropriate, no matter how well meaning or targetted a particular program may be. The corporate goals of administration must provide for the means to meet local needs. For example, since 1990 higher education institutions have been asked to develop equity plans in which they set institutional target for educationally disadvantaged groups, which includes rural and remote people.

Four strategies in particular are conducive to the greater participation of rural and isolated students. They are:

- the tertiary awareness and schools liaison program;
- new technologies for distance education;
- Aboriginal support programs; and
- student accommodation.

In addition to these strategies, a range of programs have been established to assist students in remote areas.

The Country Areas Program (CAP) provides funding to assist primary and secondary schools disadvantaged by restricted access to social, cultural and educational activities and services as a result of geographic isolation. The CAP has two elements - the

general element and the national element for country secondary schools. The national element is a new facet of CAP introduced this year. It will run for three years and will receive funding of $3.3 million for each of those years. This element supports initiatives to encourage young people in rural areas to complete twelve years of education. It will also seek to improve levels of student achievement and to reduce this incidence of gender bias in student subject choice.

Financial assistance is also given to students so they can assist in their education under Austudy and Abstudy and the Assistance for Isolated Children Scheme. Austudy provisions which directly benefit rural and remote students, including the payment of an away rate of allowance for students who have to live away from home to study and a fares allowance for two return trips between the students home and term address. Also, a hardship provision was introduced from January this year so that the present Assets Test for Austudy no longer applies if a students' parent or spouse receives either a social security or veteran's pension or household support under the Rural Adjustment Scheme.

The Assistance for Isolated Children Scheme is designed to assist families whose children do not have ready access to government schooling or who live away from home to attend a particular school because of a disability.

In January significant increases to the minimum boarding allowance and second home allowance and the corresponding allowance for secondary students took effect. I was pleased to be part of that decision as there was a demonstrated need for these changes that had to be met. Thanks to the work of many people, not the least being those involved in the Isolated Children's Parents' Association, students under that scheme are now receiving on average an additional $965 per year. Also, the Assets Test for the assistance no longer applies if the student's parents or spouse receive social security, a veteran's pension or household support under the Rural Adjustment Scheme.

A significant flow-on benefit to those families with children who receive Newstart and Job Search allowances following certification by a Rural Adjustment Scheme Authority is that they will now be eligible for education assistance payments.

As well as these programs to assist isolated students, there have been exciting recent advances in the area of distance education and the utilisation of new technologies in the delivery of education services. The Minister for Higher Education and Employment Services, Peter Baldwin, in his recent policy statement 'Higher Education: Quality and Diversity in the 1990s', acknowledged the need for new technologies to be evaluated in terms of their use in delivering education services. At the October meeting of the Australian Education Council last year it was agreed that the Working Party on National Communications work toward the development of a National Open Learning Framework. The Working Party then decided to organise eight consultancies looking at the feasibility of a national body to coordinate and facilitate national communications and related open learning techniques for education and training.

The areas the consultancies will be looking at include brokerage arrangements between educational users of telecommunications, hardware, courseware, software and their suppliers. The main purpose behind investigating the potential of alternative delivery of education is the acknowledgement of the need for greater access to, and participation in, all levels of education.

The recognition of the importance of innovation is, in my view, fundamental to the improved provision of educational services to people who live in rural and remote areas. The ABC's participation in a TV Open Learning Project is being launched tomorrow by Peter Baldwin. Advertisements are already appearing inviting people to enrol in courses being offered by Monash University, the University of New South Wales, the University of South Australia, Deakin and Griffith Universities. The use of TV in this way has the potential to change traditional means of developing and delivering higher education. It is an important step and one which is well overdue.

The potential of new technologies in the education field is one that I am particularly interested in. In fact, I have organised a conference in Darwin next month that will examine outback communications. The conference, 'Service Delivery and Communications in the 1990s', will be looking at the future use of current and emerging communications technologies to enhance and improve the delivery of services to rural and remote Australia. Naturally, education is one of the areas that will be discussed.

It is my view that technology should be used to open up education to those who are unable to participate in mainstream education and to ensure rural and remote Australians have access to a full range of educational options.

A most exciting proposal has been put forward by communities to the west of Alice Springs. The 'Tanamai Network' is a proposal to link the communities of Yuendumu, Lajamanu, Kintore, Willowra, Darwin and Alice Springs. This 'Communications Network' will use compressed video and computer links via satellite and potentially enable enhanced service delivery while being cost effective. This innovation has the potential to assist in the delivery of programs which are themselves innovative and special. It would seem to me that the use of technology could add significantly to the Remote Area Teacher Education (RATE) program, a significant and important innovation in itself, and I understand that Batchelor College, the Northern Territory University and the NT Department of Education have been working with the Tanamai Communications Network Team. What is especially significant with the use of technology in this way is that the proposal came from the community themselves, as they saw the potential.

A proposal I am keen to explore further is the Telecentre or Telecottage Projects. This is a relatively new approach to rural development which is being experimented with or researched in a number of countries, including Australia. Basically, the proposal involves an individual home or small community setting up a communications centre with equipment such as computers, printer, modem, telephone, fax machine and various computer software.

Telecentres cover a range of possible uses, including electronic mail, teleconferencing, and outplaced employment opportunities. The use of telecentres in improving access to educational services is obvious. For example, a student in a small, rural school may be the only person in her or his school studying physics but there are four more students in three other schools within a radius of 500 kilometres. Using conference phones, linked computers and fax machines they are able to hold joint classes where they share a teacher from another school. They can all talk together and write using the computer blackboard as well as send and receive written material. The Federal Government is presently examining a proposal for the funding of telecentres. Under this proposal money would be provided for the establishment of projects in the states and the Northern Territory under the Rural Access Program.

I have attempted here to give you a potted overview of the Federal Government's initiatives in the area of education in rural and remote areas and the future directions of these programs. It is important that the progress made to provide better education and training opportunities to rural Australia be continued and built upon. Much is already in train to ensure a Fair Go for rural and remote Australians but the momentum must be maintained.

It is for this reason that it is heartening to see bodies such as the Rural Education Research Association conducting these conferences. The aims of RERA, and I hope the results of this conference, will assist the Government in continuing to improve educational opportunities in the bush. Of course what this conference will highlight is the necessity of a coordinated and cooperative approach between the various levels of government and interest groups in developing appropriate programs for rural and remote Australia.

If we are really to become the clever country, indeed if we are a clever country, we will adopt an approach to these needs which ensures that we are flexible, innovative and prepared to review policies once they are in place. And we certainly will not be afraid to enter into genuine dialogue with providers and client groups to ensure the relevance of our policies and programs.

The Labor ideal of a fairer and better Australia is paramount in developing strategies promoting equality of access to education services. The Federal Government is determined to deliver the education and training opportunities available in metropolitan areas to all Australians. This is important in terms of individual opportunity and advancement but it is also vital to the development of a better educated and prosperous Australia.

The viability of rural towns: A critical appraisal of the role of public and private sectors in sustainable rural town development.

Philippa Hudson, *Director (Social Policy), Office of Northern Development* *

Introduction

Rural towns are now receiving increasing attention from government policy makers, academics and non government bodies alike. Ten years ago, rural town research was hard to find and rural town policies were unstructured and unco-ordinated. This is now changing with a new government commitment to regionalisation in a number of states, the previous efforts to provide incentives for decentralisation having only provided spasmodic success.

New regional policies are having a far reaching effect in rural and remote Australia. This is slowly forcing a more indepth understanding of the development needs of non metropolitan people. Although it is encouraging to see decentralisation away from the metropolitan centres, these policies can be criticised on three grounds. Firstly, key locations have been targetted to recentralise government activity, siphoning resources and people away from other towns within these regions. Secondly, the focus of work and attention has been on the regions in closer proximity to the metropolitan centres. Thirdly, the current focus is primarily economically oriented. The lesson that economic development cannot be undertaken in isolation from social development has apparently not been learnt.

Further impetus to the rural focus has been provided by the current economic recession and 'rural crisis'. There is now an urgency for new policy and planning approaches to rural Australia. The importance of sustaining primary industry export earnings is clearly evident from our national balance of payments problem. The value of our rural sector is well known even if it has been taken for granted by the majority of urban dwellers. Less well appreciated, however, is the importance of sustaining a hierarchy of viable rural and remote towns.

This paper will focus on the need to nurture rural towns through both private and public investments. Private investment is necessary to provide a sound commercial sector and to diversify the economic bases of rural towns, possibly through secondary industry, tourism enterprises or cultural pursuits. Public investment is essential to maintain a reasonable standard of living for rural dwellers.

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* *The views in this paper are the author's and do not necessarily reflect the views of the Office of Northern Development*

People living in rural areas can justifiably argue for access to a comparable range of basic infrastructure and services to that found in larger urban areas. The rationale for this assertion is based on a two way cross subsidisation system. Rural and remote regions provide the national economy with crucial export earnings and governments accrue economic rent from regional resources, such as mining, pastoral and marine resources, in the form of royalties and taxes. In return, governments should continue to upgrade regional infrastructure and services to a standard which compares favourably with their metropolitan counterparts. Unfortunately for rural people, it has been a continual battle for them to obtain a fair share of this return. In fact, in more recent times, many have had to divert their energy to fight rationalisation and losses of existing town and country services. Meanwhile, regional resources continue to be exploited for the national benefit. The evidence suggests that perhaps it is now time for rural and remote inhabitants to channel their efforts, in a unified fashion, to argue for a share of the economic rent and value of the exploited resources to remain in their region for local distribution. Empowering a regional body to obtain the return and distribution of these resources would be one solution.

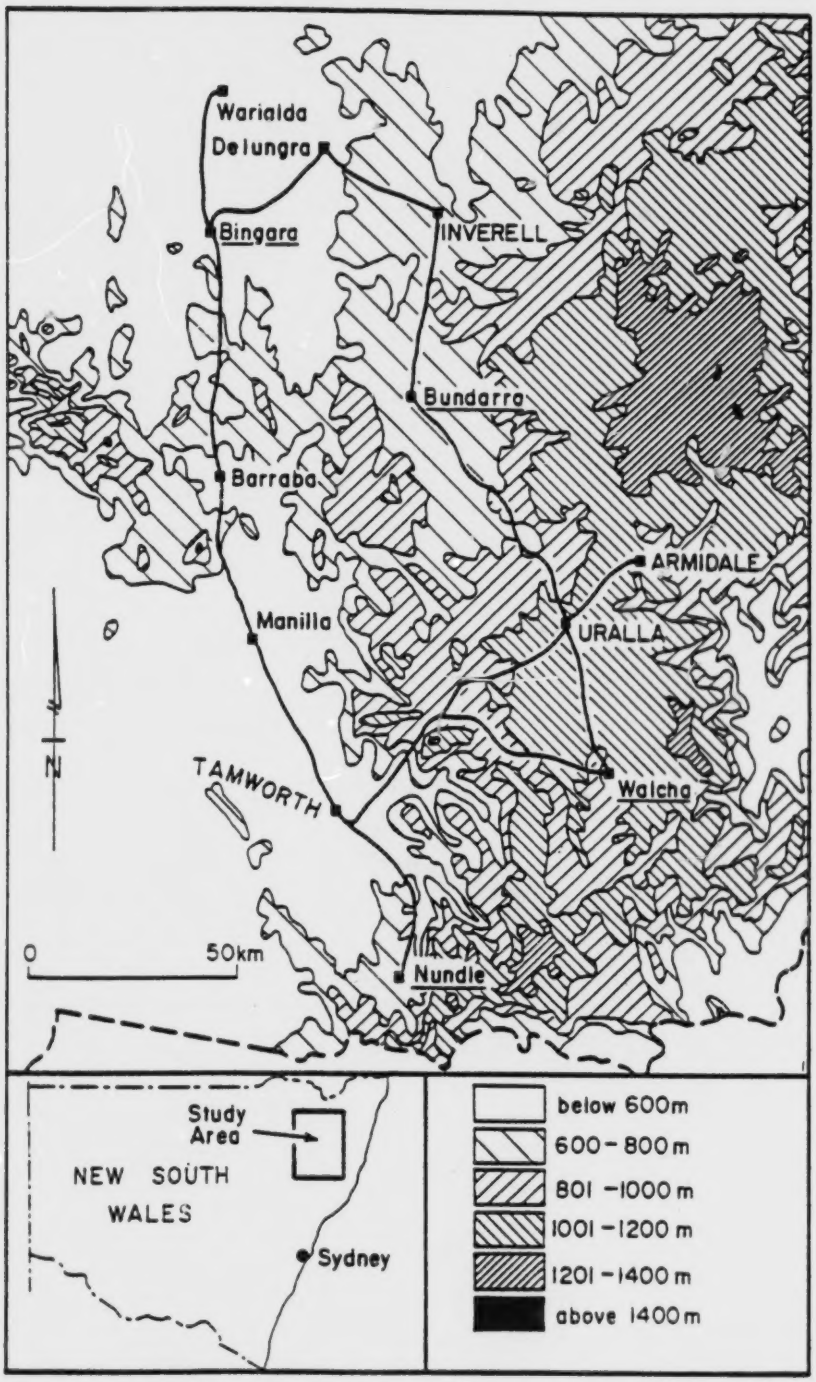
Both economic and social analysts of the rural sector agree that state governments are not looking after their rural and remote areas. Furthermore, politicians have misjudged the people. There is widespread concern about the current severe rural recession. The basic national ethic of giving all groups a 'fair go' is under question. On most statistical variables, whether they be poverty, income levels, employment, education, training or social support indices, rural inhabitants are found to be in a worse position than urban residents. Government funding has been inadequate, spasmodic and unevenly distributed. Consequently, an unstable pattern of rural and remote town development has occurred. This has retarded the rural town growth which was a noticeable feature during the 1970s, but has only continued spasmodically in selected areas in the 1980s.

Population changes in rural areas are still poorly understood. One reason can be attributed to an over-emphasis by the media and others on gloom and doom reports about dying country towns. This has hidden some of the very positive changes which have occurred in the majority of rural centres. Another reason is the incorrect useage of census data. The next section aims to clarify some of these apsects by analysing population statistics and changes which have occurred. However, it must be borne in mind that growth does not necessarily mean progress or good viability and vice versa. The author's research in the New England region of NSW and the more remote parts of northern Australia will form the basis for the following discussion.

Rural town growth

Non metropolitan growth has been a consistent trend for the last two decades. In a national study, Hugo and Smailes (1985) showed that between 1971 and 1981 there were important increases in the two smallest sized settlements. In addition, many of the most rapidly growing towns of 5000 or more were a considerable distance from metropolitan centres. Thus non metropolitan expansion extended into the inland as well as the coastal regions.

FIGURE 1: LOCATION OF FOUR RURAL SETTLEMENTS STUDIED IN THE NEW ENGLAND REGION



*Source: **An Atlas of New England**, Lea, D., Pigram, J. and Greenwood, L.(1977) p.6)*

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A study of four rural communities in New England, NSW (Figure 1), in the early 1980s, showed rural towns were becoming more attractive places in which to live. Under the impetus of the Whitlam government policies in the 1970s, funding for rural towns increased considerably. Local government received its first guaranteed proportional share of grant income. These monetary benefits enabled local governments to improve community facilities. Local people began building and renovating homes, enhancing the appeal of country towns. These changes encouraged retirees to leave the city and settle in these towns, along with others wishing to escape the city 'rat race'. The latter group of people included professionals, tradespeople and some small entrepreneurs establishing light industry and more specialised business ventures. Contrary to reports of static and dying inland country towns, a survey revealed that one third of all respondents had arrived to settle in these communities over the previous ten years (Table 1).

TABLE 1: PERIOD OF RESIDENCE IN NEW ENGLAND COMMUNITIES
(cumulative percentage)

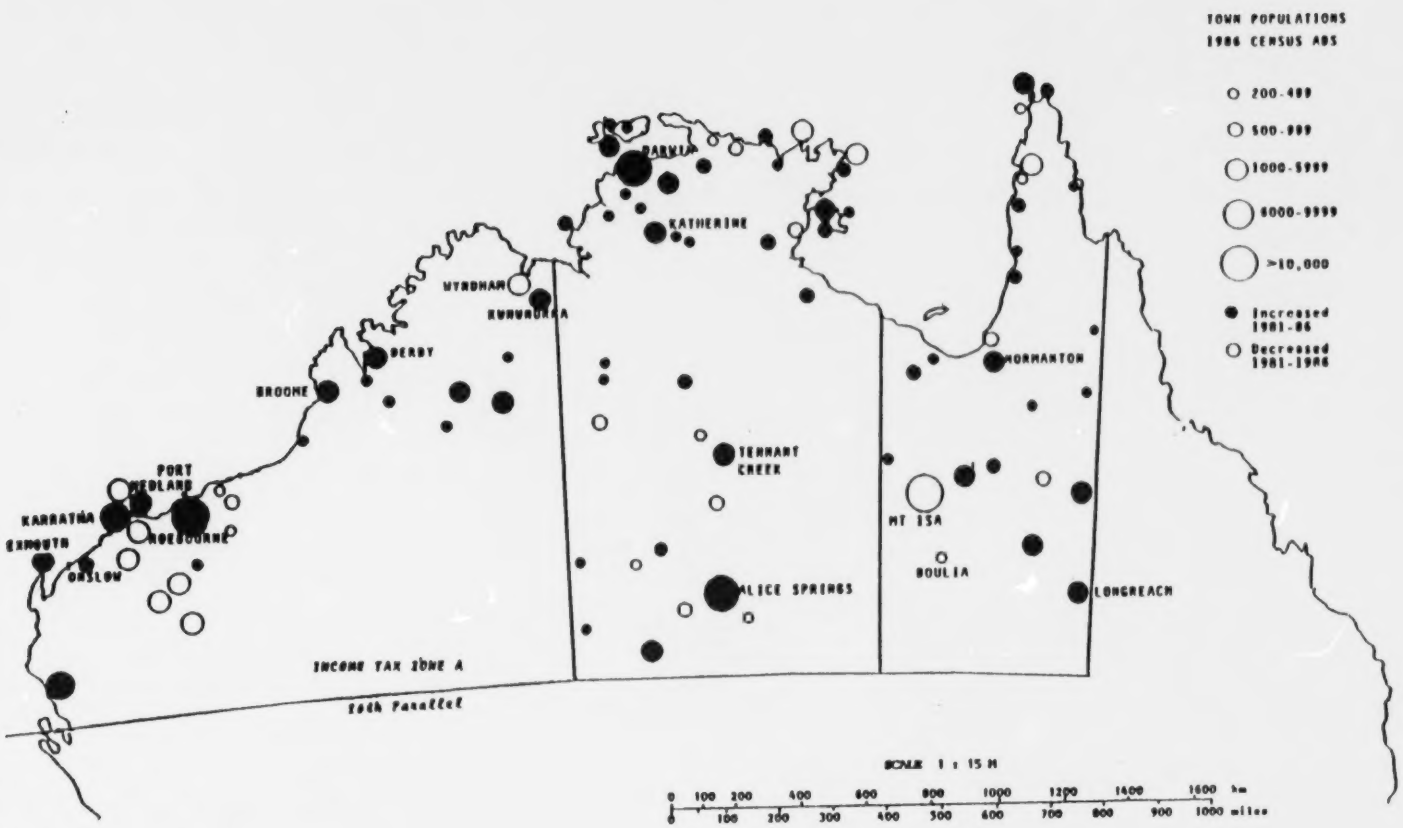
Community Area	Lived in community up to			
	5 yrs.	10 yrs.	20 yrs.	N
Walcha town	15	22	42	117
Walcha rural	19	37	50	123
Bingara town	16	22	28	95
Bingara rural	21	25	48	52
Bundarra town	38	54	54	43
Bundarra rural	62	66	83	29
Nundle town	23	38	46	136
Nundle rural	21	28	51	53
Average	22	33	46	

Source: Questionnaire survey 1981 (Hudson 1987:152)

The main economic opportunities drawing these new residents were the ability to purchase businesses, houses and rural properties at economical prices. Social advantages focused particularly on the rural life style, the peace and quiet, clean air, more personalised and friendly local attitudes, and the safer environment.

An analysis of the more remote areas in northern Australia shows that rural and remote town growth has been considerable (Figure 2). Of the 94 settlements (over 200 people) in income tax zone A, 66 expanded between 1981 and 1986. All but six of the 28 settlements which

FIGURE 2: SETTLEMENTS IN THE MORE REMOTE PARTS OF NORTHERN AUSTRALIA: GROWTH AND DECLINE 1981-1986



Source: Census of Population and Housing 1981 and 1986, ABS Catalogue Nos. 2405, 2407, 2403, 2465, 2468, 2464

declined were either mining towns or Aboriginal settlements (Hudson 1988, 43). These towns are considerably less stable than service centres. The major population increases were occurring in the Northern Territory and the north of Western Australia. Western Queensland has experienced consistent rural depopulation, although the major component of these losses were from the rural properties (Hudson 1991a).. More recently, western Queensland towns have recorded an overall increase of 8% (Taylor 1989).

Northern town growth has been stimulated by both immigration and natural population increases. Public and private investment has expanded in selected locations as tourism intensifies, transport links improve and development of the north proceeds. Various aspects of northern life styles have modernised with improved local amenities and services, increasing the attractiveness to settle in the north (Hudson 1990a). A growing appreciation of the beauty of northern environments continues to draw both new residents and tourists. The north is still viewed as a land of potential and fascination by the more adventurous who move to these more remote locations. The high immigration rate is reflected in a survey undertaken in six small northern Australian communities where a large proportion of the local residents had arrived in the previous five years (Table 2). Although transient government workers make up one component of these new arrivals, there is also a wide variety of other types of people moving north, such as small entrepreneurs, builders and tradespeople, and new rural property proprietors.

TABLE 2: LENGTH OF RESIDENCE IN LOCAL NORTHERN AUSTRALIAN COMMUNITIES, 1989 (%)

	Years Lived in Community				
	<5	5-14	15-29	30+	N
TOWN					
Broome	50	26	12	13	159
Exmouth	62	23	15	0	110
Wyndham	29	32	27	12	59
Longreach	40	30	12	19	91
Normanton	28	13	33	26	54
Boulia	43	20	20	17	54
RURAL					
Broome	38	36	19	8	48
Exmouth	39	36	18	6	33
Wyndham	81	16	0	3	31
Longreach*	21	21	28	31	39
Normanton	53	19	16	12	57
Boulia	54	17	10	20	41

N = total survey

* Longreach was surveyed in 1991.

Source: Hudson 1989, 1991 field work surveys.

Rural town growth is often hidden because analysts often use shire or even statistical division ABS census data. When shire and town figures are separated, it is invariably evident that the most consistent pattern of rural depopulation is from the rural hinterland, typically from pastoral properties. In contrast, Aboriginal population growth has been a significant feature in rural hinterland expansion due to the homeland or outstation movement, especially in the Northern Territory (Figure 3).

Another distinction which should be made is between the usual residents and the visitors. Generally, most people cite the enumerated census figure which includes all people at a particular location on census day. When analysing rural towns, it is often useful to establish usual resident and visitor population changes. For example, between 1981 and 1986, visitor numbers expanded considerably in northern WA towns but the usual resident growth was variable. In contrast in western Queensland, the major town losses were visitors (Table 3). With the construction of the Stockman's Hall of Fame in Longreach, the next census should show an increase in visitor numbers to western Queensland.

TABLE 3: USUAL PLACE OF RESIDENCE AND VISITOR COUNTS FOR SELECTED WESTERN AUSTRALIAN & QUEENSLAND TOWNS

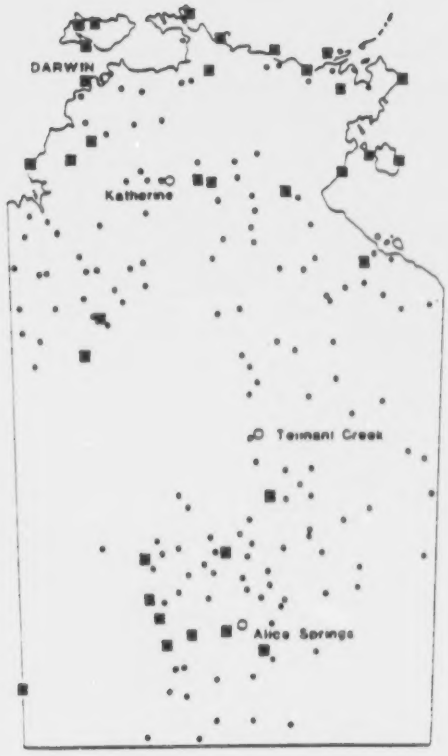
	Usual resident count		Visitor count		Enumerated count	
Town	**1986**	**% change**	**1986**	**% change**	**1986**	**% change**
WA:						
Broome	3950	61.4	1828	98.1	5778	57.6
Derby	2659	19.5	600	4.5	3258	11.0
Kununurra	2530	42.0	607	142.8	3137	50.7
Exmouth	1780	1.1	1733	128.9	3514	36.0
Wyndham	1109	-11.1	220	8.9	1329	-11.9
Queensland						
Mt Isa	21758	5.2	1590	-24.5	23348	-1.4
Longreach	2909	10.3	248	-13.6	3159	6.3
Winton	1055	3.5	222	-0.4	1281	1.7
Normanton	996	41.5	111	-45.6	1109	19.8
Boulia	247	4.2	42	-19.2	287	-1.7

Source: ABS 1986 census, small area data, urban centres/localities

More recently, some research has indicated a less positive picture about rural towns in the southern states (University of Sydney, Planning and Research Centre 1989), particularly in stressed rural areas like Ayres Peninsula in South Australia (Smailes 1989) or the wheat belt in Western Australia. Other work by the Rural Development Unit, University of New England, NSW, and Henshall and Hansen (Victoria) suggest that the major pattern is still one of non metropolitan expansion and small rural town growth. The most vulnerable towns are identified to be those with populations of less than 1,000.

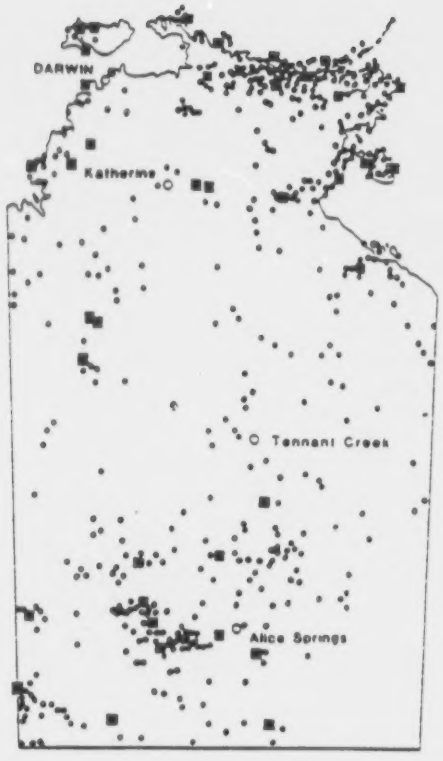
FIGURE 3: DISTRIBUTION OF ABORIGINAL PEOPLE

C. 1970



Source: Department of Aboriginal Affairs 1973

1989



■ Aboriginal Community

• Outstation or Pastoral Excision

Source: Department of Lands and Housing 1989

Reproduced from ***Aboriginal People in the Northern Territory****, Australian Bureau of Statistics, 1990, p.12.*

In summary, the evidence shows that non metropolitan growth, overall, is continuing. Whether this pattern is sustained throughout the 1990s, in a time of recession as well as a severe rural depression, will depend largely on policies and attitudes to rural and remote development. The towns which continue to maintain a government presence and diversify their economic activity by attracting private enterprise should be assured of a viable future.

Structural Adjustments arising from Diversified Economic Activity in Rural Towns

Single industry towns have long characterised rural and remote towns, whether they be agricultural service centres, mining towns, timber towns or fishing settlements. However, as communication, transport and technology has changed, so have patterns of localised economic activity.

Development has diversified in a number of settlements, particularly rural service centres. No longer is the country town surviving as a centre to serve the surrounding agricultural and pastoral hinterland population. Small towns are now functioning as retirement settlements, dormitory suburbs for provincial towns, tourist destinations, or locations for small scale manufacturing and light industry (Hudson 1986, Henshall & Hansell 1988). This has been termed the 'uncoupling' of rural service towns from their traditional roles (The Rural Development Unit, University of New England) . In addition, expansion of government functions in some rural and remote centres has added an additional administrative dimension to some key locations.

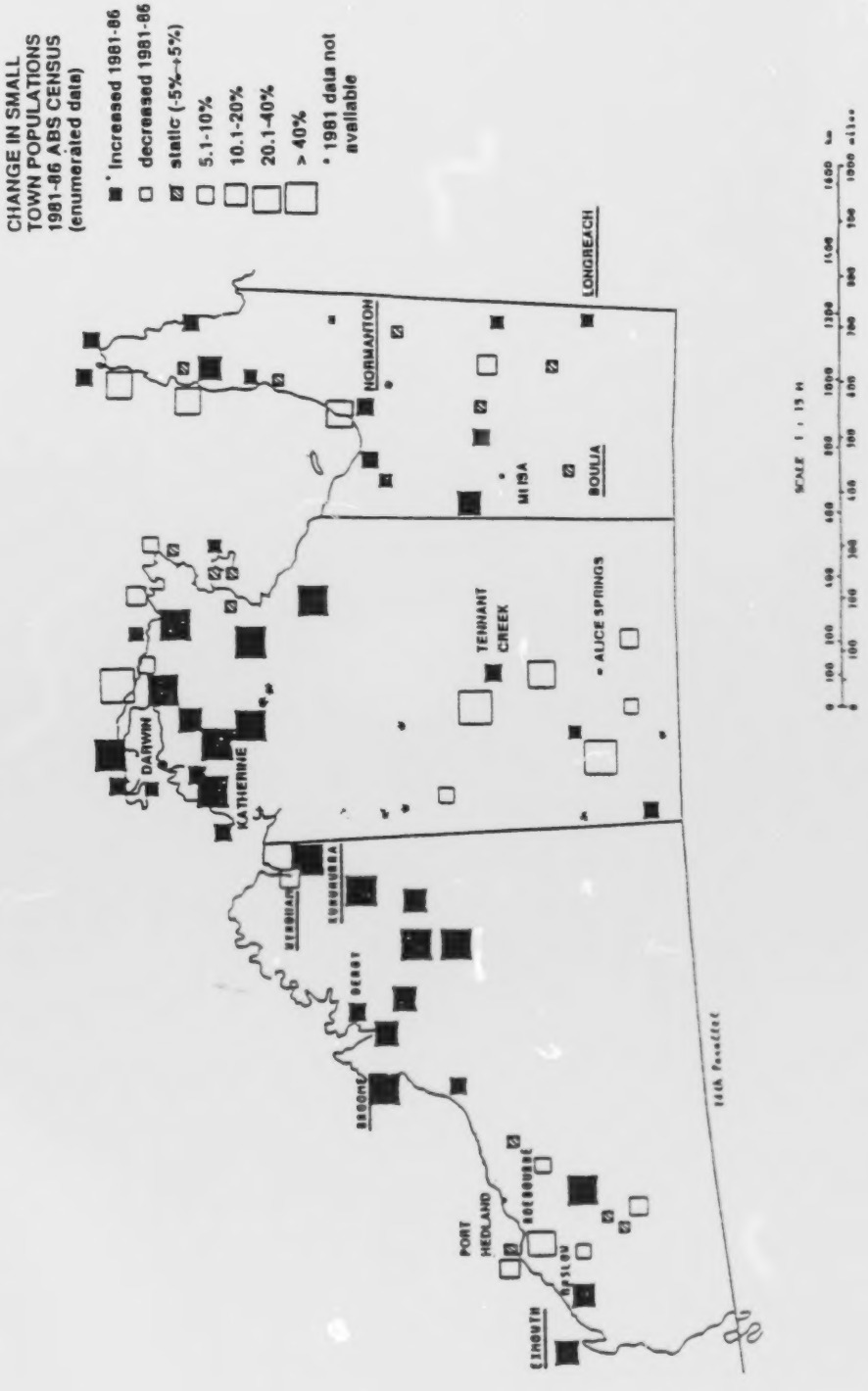
It will be argued here that small towns which have received sound government investment have invariably attracted private investment also, and vice versa, consolidating the viability of such towns. This will be briefly illustrated through an analysis of seven northern Australian towns (Figure 4), four of which have received significant government input and demonstrate the benefits from this investment, and three small towns which have received minimal government investment and have consequently been left behind in the development process, failing to attract private entrepreneurial activity.

Investment in four northern Australian towns

Three of the towns to be discussed are in northern Western Australia: Broome and Kununurra in the Kimberley and Exmouth on the North West Cape. The fourth town is Longreach, located in central Queensland. All towns have usual resident populations between 2,000 and 5,000.

Broome has been the boom town of the north during the 1980s, increasing its usual resident population from 2447 in 1981 to 3950 in 1986, a 61% growth rate, and continuing this expansion rate until 1990. The town is now dominated by white residents who, in 1981, were in the minority. Broome's function changed from being an old historic pearling town (1883) with a multicultural flavour to an upmarket tourist destination. Visitors increased by 98% in

FIGURE 4: SMALL SETTLEMENTS IN THE MORE REMOTE PARTS OF NORTHER AUSTRALIA: POPULATION CHANGES 1981-86 (TOWN POPULATIONS 200-6000)



Source: Hudson 1989, 44

the same intercensal period. Although pearling contributed $100m to the economy in 1990 and the industry employed 500 people, tourism had taken over the town. By 1989 there were five luxury tourist resorts; $78m of development expenditure occurred in this year. Business and residential expansion mushroomed along with the tourist developments.

Private investment has led both phases of development in Broome, the major difference being that the pearling industry, prior to the 1980s, was largely owned and operated by local Broome pearling proprietors. In contrast, the tourist developments are predominantly controlled by absentee owners, the major tourist investor being an overseas operator. This appears to have an effect on community relations (Hudson 1991b). The pearling days are described as a more harmonious time among the multicultural residents who gave this town its own unique flavour. Tourism, on the other hand, has had a short history of community conflicts and divisions where many local residents reacted strongly to being pushed aside by rising costs, accommodation shortages and tourist interests preceding community needs. A major complaint was a lack of local say in what was occurring; there were accusations of vested interest groups holding the power and making the community decisions. A random survey of the residential population in 1989 showed that the majority of respondents (57%) considered that the rate of change had been too rapid. Only 27% regarded the pace to be about right; these respondents were generally business or trades people (Hudson, survey of 159 residents in 1989). A classification of identified costs and benefits of tourism development in Broome is set out in Table 4.

TABLE 4: Costs and Benefits of Tourism Development in Broome

Costs	Benefits
• Marginalisation of the Aboriginal and coloured people	• Expansion of new services, and business
• Too much power in vested interests	• More infrastructure and community facilities
• Destruction of multicultural flavour of the town and original form of Shinju Matsuri	• More sealed roads and kerbing and guttering
• Increased racism	• Increased variety of restaurants/entertainment
• High accommodation costs/shortage	• Restoration of Broome architecture
• High local prices	• Better educational system
• Less friendly/more local conflicts	• Better health system
• Environmental impacts (e.g. dune destruction)	• Tidier town
• Loss of historical character of town and imposition of artificially created atmosphere	
• More crime/domestic violence	

Source: Hudson 1990b

It is evident that Broome underwent too much change too quickly. The intensity of the growth placed considerable strain on government sectors servicing the needs of the rapidly expanding population. This meant that funds were diverted away from other towns to service Broome. In addition, some regionalising of departments in Broome occurred, compounding the stress in the town. Derby, a nearby town of nearly 3,000 people, had long been regarded as the regional centre of the west Kimberley. It would have made better sense to have kept as many regional functions as possible in Derby, spreading the growth, rather than encouraging Broome's boom. Such a policy would have stabilised Derby, now living in the shadow of Broome.

The most questionable WA government involvement was its joint venture in the Cable Beach Club resort. The WA government provided $25m as a joint investor with the overseas developer, as well as $25m in loans towards the project. Meanwhile, other Kimberley towns and other small entrepreneurs in a less advantageous position were unable to obtain government support. The effect of this policy will be discussed later in relation to Wyndham.

By 1990, the boom in Broome was over. Three main factors contributed to this occurrence: the pilot's strike in 1989, the collapse of WA Incorporated and the withdrawal of the overseas entrepreneur. Broome was overcapitalised and too heavily dependent upon the tourist industry. Four of the major tourist resorts were on the market and an alarming proportion of local businesses were reported to be in a bad financial situation. On the other hand, many local residents were relieved that the community now had a breathing space for proper planning and more localised control over the pace and type of development (Hudson 1991b).

Tourism when it evolves into a local megaindustry in a relatively short space of time, invades a small community. Research indicates that where tourism exceeds 30% of a town's economic base, there are not only negative impacts for the local community but the local economy is particularly vulnerable due to the fickle nature of tourism (Long, Perdue and Allen 1990). Evidence from towns like Longreach show that if tourism is introduced at a slower pace and does not dominate the local economy, then there are considerable benefits to be gained from this industry.

Kununurra has an almost opposite history. It is a new town (1959) built with public funds in conjunction with the $97m Ord River Irrigation Scheme (Dillon 1986:3). Government support services, such as the Department of Agriculture and the Water Authority, provided a substantial economic base to the town which helped it survive through the difficult period of cotton production failure on the Ord. By the 1980s, however, private enterprise began playing an important role. Tourism in the East Kimberley increased, stimulating the expansion of local accommodation and tour activities. The commencement of the Argyle Diamond Mine in 1981 gave Kununurra a further boost through the construction of 62 houses for its administrative and technical staff, as well as a donation of $5m to community facilities. The major beneficiary of the Argyle Mine, however, has been the WA state treasury which by 1991 had received $100m in royalty payments (Gosling 1991, pers.comm.). Had a subtantial proportion of this money been returned to the East Kimberley region, the viability of a range of remote settlements would be considerably sounder than the situation today. Furthermore, if the 800 employees were not flown from Perth under the existing fly-in fly-out scheme, but from Kimberley locations

instead, then a substantial return of income and assets would accrue to the resource rich region (see Pollard 1990 for social impacts of this policy).

It could be argued that the mine has effectively paid for the Ord Scheme, a scheme which has received so much negative analysis from economists who view northern development from a short term perspective. Many projects have difficult starts and as a nation we owe our thanks to those who perservere through the bad times. The scheme is now earning $35m from a range of food products which include bananas, melons, cashews, leucaena, hay and other pasture crops (McCosker 1991, pers. comm.). It has a potential for considerable expansion with a sugar industry proposed as the next major agricultural development. This scenario gives Kununurra a sound long term future. There are now a sizeable number of farmers and horticulturalists living in and near Kununurra, and their cash flow has assited to expand the retail and light industrial sectors. By 1990, the town had doubled its retailing space. The increase in the public sector had also played a significant role in this occurrence.

Government departments have further consolidated Kununurra's future by making it the East Kimberley regional centre. New office blocks were constructed by the Commonwealth and State governments and a range of additional personnel were located here to service the region. Thus Kununurra has had strong public as well as private sector investment. This stimulated further commercial activity and the town is now under developmental constraints from lack of tourist accommodation, lack of residential land and a lack of agricultural land to meet existing further horticultural demand. Kununurra's population expanded by 42% between 1981 and 1986 but this rate of growth did not continue into the latter part of the 1980s, largely, it could be suggested, due to the development constraints.

Longreach in central Queensland is another example of a northern Australian town which has benefitted from a diversity of private and public investments. The surrounding pastoral industry was the mainstay of Longreach from 1887 until the 1980s. The town's fortunes were largely tied to the cyclical swings of the rural primary sector determined by droughts, floods and market variations. Typical of almost all rural towns, during the rural downturns, rural town businesses were left to struggle through without the assistance of rural adjustment packages (Phibbs 1988, Taylor and Garlick 1988, University of Sydney 1989). These packages provided loans, funds and subsidies to the agricultural and pastoral industries. The needs and role of the country town in the rural regional economy are only just being adequately addressed. Similarly, farmers and graziers are beginning to realise that they also have to think in terms of the rural community, not just their own specific needs.

Longreach town is more fortunate than many rural towns, in that it is well supported by the surrounding rural dwellers. During the buoyant seasons, rural people are stated to be 'good local spenders'. The land in the Longreach district is regarded as sound pastoral country and all but two rural properties are family owned and operated. Evidence suggests that family properties are better local supporters than absentee run properties, an important factor when considering the viability of rural towns.

Government investment in Longreach during the 1980s gave the town an additional stability. Longreach already had an advantage not enjoyed by other small western Queensland towns

through the location of a Pastoral College on the outskirts of the town. This advantage was further entrenched with the opening of the School of Distance Education in 1987 and the Arid Zone Research Institute in 1988. Longreach became an educational centre. By 1991 there were 111 teachers in Longreach. Regional offices for health, education, land administration, and sport and recreation, for example, were opened in Longreach. This government input played a major role in the town's population increase of 10% between 1981 and 1986. It also gave the retailing sector a sound local custom from the reliable wages of government employees.

Two significant private initiatives have played a key role in the development of Longreach. The first was the construction of accommodation for the aged, a project which began with the completion of four aged units in 1963, the addition of a further seven duplexes, the opening of 'The Pioneers' Frail Aged Hostel' in 1976 and, finally, a Nursing Home was added in 1982. The project involved substantial voluntary efforts and private funds, as well as Federal Government funding on a 2:1 basis for the later constructions. This aged complex cares for approximately 120 elderly people and it operates with a staff of 47. Thus the Pioneer Home is an asset to the local business sector through its supply orders from the institution and staff.

The second major private venture in Longreach has been the opening of the Stockman's Hall of Fame in 1988. This $11m facility was funded roughly equally with private and government monies, showing how both these sectors encourage each other (Table 5). Further private investment occurred in Longreach to support the expanding tourist industry stimulated by the Hall of Fame.

TABLE 5: MAIN PRIVATE AND GOVERNMENT INVESTMENT IN LONGREACH TOWN SINCE 1987

	1987	1988	1989	1990
Private Business Investment	$5.1m	$1.1m	$2.9m	$3.3m
Government Investment	$6.4m	$4.0m	$0.7m	$2.2m

Source: Longreach Shire Council; Barcaldine Department of Administrative Services, 1991
[Figures do not include small renovations or constructions]

In relation to observable benefits, tourism is only marginally important to most Longreach town businesses (Table 6). Businesses in towns like Broome and Exmouth are more heavily geared to the tourist industry (Table 7). Motels, restuarants, gift shops and tour operators are the major direct beneficiaries from tourism. Nevertheless there are many indirect benefits arising from increased employment in the hospitality businesses. In addition, a facility like the Stockman's Hall of Fame assists to stimulate the regional economy, and hence other towns, as it draws tourists into the area.

TABLE 6: ESTIMATED PERCENTAGE OF CUSTOM FOR LONGREACH BUSINESSES

%	*Rural residents*	*Town residents*	*Tourists*
0	16	10	29)
1-10	25	14	38) 70%
11-30	21	10	7
31-50	16	21	7
51-70	8)	20)	-
71-90	3) 18%	16) 43%	4
91-99	7)	7)	7
100	-	-	5
no data	4	2	3

* The tourist percentages are based on the peak tourist season estimates.

Source: Hudson 1991 business survey of 77 local businesses.

Tourism has not had the negative impact on the Longreach community as occurred in Broome. This is because it has not over-run the town and has been introduced at a pace which has gained acceptance among the vast majority of the population. Residents here value the additional income the town earns from this industry. It is ironical that residents in Longreach were initially hesitant about, or even opposed to the Hall of Fame. Three years after its opening, the vast majority of respondents in a survey acknowledged its benefits to the town (Hudson, field work 1991).

Town custom is the major component of local business support in all northern towns surveyed (Table 7). Longreach's business sector is fortunate in that it is seven hours drive to the nearest major centre. Consequently this keeps many purchases within the local business district. Other towns in more closley settled rural areas, such as the New England region of NSW, lose much custom to the nearby larger centres (Table 8).

With the downturn in the economy and a change in Queensland government, Longreach has already lost its Regional Education Office to Mt Isa as rural services are rationalised. The government role will again be crucial to the viability of all these outback Queensland towns. However, towns like Longreach, which have had a significant government input, stand a better chance of maintaining sound local economic and social opportunities than their neighbouring towns which have generally missed much of this public investment.

Exmouth represents a town constructed entirely for government purposes: defence. The jointly owned Australian/US Naval Telecommunication base, now being handed over to the Australian government, was initially the only reason for the town's existence. Over a 15 year period from the town's inception in 1963, the Commonwealth government provided residents

TABLE 7: ESTIMATED PROPORTION OF LOCAL BUSINESS CUSTOM FROM TOURISTS (per cent)

Proportion	Broome	Exmouth	Wyndham	Longreach	Normanton	Boulia	% of total businesses	N
none	21	17	22	29	42	17	24	63
<10%	10	2	39	38	21	42	22	57
11-30%	23	17	13	6	17	8	15	39
31-50%	19	21	4	6	0	25	13	34
51-70%	13	15	4	0	4	0	7	19
71-90%	6	19	4	4	0	8	7	19
91-99%	1	2	4	6	4	0	3	9
100%	3	6	0	5	8	0	4	11
no data	3	0	9	5	4	0	3	9
N	77	47	23	77	24	12		260

N = number of businesses (either the owner or manager of each business was interviewed)

TABLE 8: SHOPPING DESTINATIONS FOR EVERDAY ITEMS, NEW ENGLAND COMMUNITIES, NSW

Community Area	No of Shoppers	Local	Local and Nearest Centre	Tamworth	Armidale	Inverell
Walcha town residents	83	68	27	0	6	0
Walcha rural residents	90	41	27	21	6	0
Bingara town residents	74	73	23	0	0	4
Bingara rural residents	41	44	34	12	0	5
Bundarra town residents	36	14	42	0	0	44
Bundarra rural residents	25	4	32	0	36	28
Nundle town residents	103	18	39	44	0	0
Nundle rural residents	37	16	14	70	0	0
TOTALS	489	40	30	19	4	6

Source: Hudson 1986:248

with good quality infrastructure and services. Private enterprise was only a small component of investment in the town, represented in local retailing, trades and a few tourist accommodation enterprises. Fishing and prawning became important commercial activities in Exmouth Gulf. The nearby prawning village has 230 people, most of whom either work on the boats or in a small processing factory at the village. Exmouth town receives some additional cash flow from the $2m paid in wages to Kailis' employees (Hudson 1988).

The scenic diversity in Exmouth's shire is a major tourist attraction. North West Cape is flanked by WA's first marine park, the Ningaloo Marine Park which contains a coral reef, unique marine life and pristine white sandy beaches. In addition, the Cape Range National Park incorporates canyons, gorges and wildlife. These features, combined with Exmouth's reputation for fishing, draws a visiting population which in the 1986 ABS census equalled its resident population (Table 3). In spite of this, these visitors are reported to spend little in the town. Generally they are caravaners and campers who 'arrived with freezers full of food and leave with freezers full of fish'. Although caravan parks florished, the commercial sector remained small and two motels/ hotels served the needs of the other tourists until 1990.

In 1989 Exmouth was on the verge of some dramatic changes. With the announcement by the WA government that it would build a $12m marina, interested tourist investors arrived. A five star international resort was proposed, along with signficant new residential and commercial developments. For a number of years Exmouth had been constrained by a shortage of land for residential and light industrial development. The development pressure was such that in 1989

many local community residents were concerned that the developments proposed would pose a threat to the highly valued local environment. Hence conflicts between conservation and development emerged (Table 9).

TABLE 9: ANTICIPATED AFFECTS OF PROPOSED CHANGES TO EXMOUTH IN 1989

Proposed in 1989	Perceived Costs	Perceived Benefits
Lighthouse Resort development ($10m)	. loss of historic character of of lighthouse . proposed sale of lighthouse . loss of open viewing of terraced anticline . more pressure on park, wildlife and coral reef	. more tourists . more jobs . more expenditure in local economy
Coral Coast Marina ($12m)	. environmental pressure on - fish - coral - wildlife - parks . danger of oil spills should ships use the marina . loss of small town life	. 5 star luxury resort . new shopping complex . government offices . caravan park . 360 new residential blocks . increased tourism . increased employment . diversity to local life
Sealing of Cape Range National Park road ($200,000 - 1st stage)	. increased traffic speeds . greater tourist numbers . further slaughter of widlife . loss of wilderness experience	. easier access into park for tourists . better visibility . no further need to dig gravel quarries . healthier vegetation

Source: Hudson 1991b

A residential survey revealed that, in 1989, three quarters of the respondents were against sealing the road in the National Park, and 53% were against the marina. There was considerable community concern about the destruction of the local way of life. Key components of this way of life included the safety of the small community life, the US residents with children particularly valuing this quality. Many local residents were concerned about the destruction of their 'paradise'. Those in favour of the marina were individuals more concerned about the economic vulnerability of Exmouth as a defence town with few other local industries.

Generally, it was accepted that Exmouth needed to diversify its economy and move away from its sole dependence on the defence base if it was to survive in the long term. The marina and resort offered economic diversification. The concern was to control the rate of change to an extent which enabled the monitoring of environmental impacts. Then, with the collapse of WA Incorporated in 1990, everything ceased. The marina construction was cancelled, the outside tourist developers vanished and the town fell into the doldrums. One local entrepreneur who had invested $10m in Exmouth motels and hotel, in anticipation of the tourist boom, has put his assets on the market. And so the cyclical swings of boom and bust continue in the north.

The town now has a new concern - oil drilling just outside the coral reef. One oil spill has the potential to destroy the natural assets surrounding the Cape, as well as the prawning and fishing industries. And so the conflict between economic interests, local interests and environmental interests continues. In the current recession, outside economic interests have the top priority. There are no benefits to Exmouth's local economy from this resource extraction.

The above four towns have had significant public investment. It can be seen that private investment has been stimulated by government iniatitives and presence in a town, except in the case of Broome where the reverse occurred. Three of the four towns appear assured of a viable future as long as the government continues to provide that stabilising role. Exmouth's future is still largely dependent on the continuation of the defence base, although if the marina is eventually constructed, the town's functions should diversify considerably.

Lack of investment in three northern Australian towns

Other rural and remote towns have been largely bypassed by the federal and state spheres of government, and consequently private investment. They struggle to maintain an adequate quality of life, some unable to fund basic infrastructure such as sewage, others fighting to retain facilities and services in the face of recentralising regional policies. For this discussion, three towns will be considered. Normanton and Boulia in western Queensland, and Wyndham in the East Kimberley.

Normanton, a remote Gulf country town, has undergone a number of functional changes since its establishment in 1868. Once it was a service centre of some importance to the surrounding

pastoral and mining enterprises. Today its functions focus primarily to service the town population.

The most significant change has been for the Aborigines. Until two decades ago, the Aborigines lived in shanties on their reserve on the outskirts of the town. With the introduction of assimilation policies, Normanton town has steadily absorbed the Aboriginal population. Today they comprise the majority of Normanton residents. The 42% usual resident population growth in Normanton, over the last intercensal period, is predominantly due to an expansion of the Aboriginal population.

Funding for Aborigines has been one of the main areas of government input into Normanton. Although funds have steadily increased since the 1970s, in an effort to improve the living standards for the indigeneous population, resources have not kept pace with needs. In spite of the construction of 32 houses for the Aborigines, an investment of approximately $4m, there is still severe overcrowding in these houses. Some houses are accommodating up to 20 people (Bynoe Society [the local Aboriginal Corporation] administrator, pers.comm.1989). There have been no new houses for the last four years; funding for more housing appears to have ceased.

Other forms of grants have increased, however. The administrative and developmental structure of the Bynoe Society expanded, particularly in relation to the introduction ofthe Community Development Employment Program (CDEP, or work for unemployment benefits) in 1990. A total of $4m has been funded for consultants to set up the CDEP scheme ($2m) and the provision of an activities centre for various work programs, as well as new vehicles ($2m). Since the introduction of CDEP, the Aborigines have given the town a new image. However, CDEP is only a temporary solution to long term employment and life style problems facing the Aborigines. When over half the town's adult population is dependent on welfare benefits, there is very little prospect for economic growth. Besides the Aboriginal funding, very little other funding is coming to this town.

Normanton still has a limited function as a service centre to the surrounding cattle enterprises. Generally, station property owners and managers in Carpentaria Shire purchase most of their supplies elsewhere. This was applicable to all areas studied, except Longreach (Table 10). One factor is distance from the town but another factor is the tendency for some, particularly the absentee company stations, to purchase direct from Brisbane or Perth. Consequently, most of these retailing sectors survive mainly on local town custom. In towns like Normanton, Aboriginal patronage is a significant component of local business custom. Due to the contraction of the Normanton town business trade area, by 1989, businesses were competing to survive.

Carpentaria Shire Council office is located in Normanton, administering the second largest shire area in the state; it is also responsible for the growing nearby coastal settlement of Karumba. Like all the other towns examined in this paper, local government plays a key role in the employment structure and functioning of the town. The smaller the town, the more important local government is to the economy, particularly if there is little other investment.

Often the only tertiary trained people available to local residents in small remote towns are found within local government. Without locally based shire organisations, these outback towns would be even further behind in the development process. As it is, Normanton still does not have some of the basic services, such as a town sewage system, even though more than 1,000 people now live in this location. Under current funding arrangements, it is unlikely that Normanton will ever have this service.

TABLE 10 ESTIMATED PROPORTION OF LOCAL BUSINESS FROM RURAL PEOPLE (percent)

Proportion	Broome	Exmouth	Wyndham	Longreach	Normanton	Boulia	% of total businesses	N
none	71	68	48	16	38	8	46	120
<10%	13	28	39	25	33	0	23	59
11-30%	10	2	4	21	13	42	13	34
31-50%	3	0	0	16	0	33	7	18
51-70%	0	2	0	8	4	8	3	9
71-90%	0	0	0	3	8	8	2	5
91-99%	0	0	0	6	0	0	2	5
no data	3	0	9	6	4	0	4	10
N	77	47	23	77	24	12		260

N = number of businesses (either the owner or manager of each business was interviewed)

Providing adequate water to Normanton and Karumba (100 km away) has been a large financial burden on Carpentaria Shire, even with commonwealth and state government assistance. The shire council had to borrow $1m in loans to cover the cost of providing water to Karumba. This type of expenditure limits council's ability to provide adequate recreational facilities. There is no reticulated grassed football oval in Normanton, for example. Towns like Normanton are not able to muster the same voluntary funds and effort to develop recreational facilities such as those found in Longreach. Nevertheless, Carpentaria shire council has done what it can, providing the first tennis court, the base work at the bowls club and maintaining the rodeo grounds and race track. There have been other improvements throughout the 1980s also (Table 11).

TABLE 11: IMPROVEMENTS IN NORMANTON DURING THE 1980S

* School expanded, more teachers
* Town roads bitumenised
* Better water supply - improved gardens/nature strips
* Expansion of Aboriginal Bynoe Society functions and funding
* New hospital (but loss of functions)
* New motel
* New houses
* Four pensioner units
* More sporting facilities - bowling greens
* Commencement of ABC and Commercial TV
* More air services
* More itinerants - extra 2 police, 1 clerk of courts, 1 stock inspector, 4 nurses,
  1 full-time doctor
* More religions
* Town now clean, well maintained, and quieter

Source: Hudson, 1989 field work

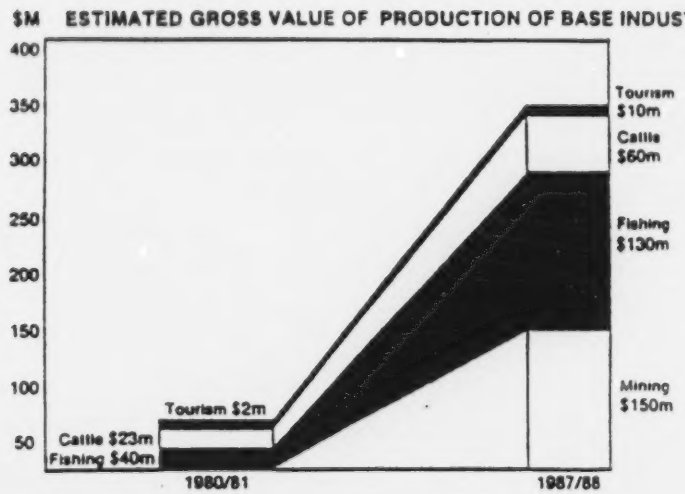
The major capital expenditures from the Queensland government were the construction of a new hospital and expansion of the school. Unfortunately, in spite of the better health facilities, the range of medical functions performed in Normanton has either declined or remained static. For example, all babies are delivered in Cairns or Mt Isa, and no specialists or allied health workers visit Normanton, except a dentist. The health services for small populations in remote parts of northern WA are considerably better, in spite of recent rationalisations.

Normanton has failed to attract any significant private investment, in spite of the town's potential. One overseas investor was considering a tourist resort development in Normanton as part of a chain of resorts across the north of Australia. Unfortunately for Normanton, it was the same investor who withdrew from Broome and Exmouth in 1990. Had this developer not

over invested in Broome but spread his resources more sensitively across the north, he may not have received the backlash which occurred in Broome. A small dose of tourist investment in Normanton would be advantageous to this town. Normanton contains some good quality architecture in the main street and it is located in a unique outback environment. There is certainly an appeal to this town but its tourism is restricted by the 100km of unsealed road to the coast. At the rate of current funding for the sealing this road, it will be half a century before Normanton is connected to the coast by bitumen. This factor in particular holds back development from a resource rich region.

The productivity generated from the gulf region more than justifies greater government expenditure (Table 12). A report by Pannell, Kerr and Forster (1983) pointed to the urgent need to develop infrastructure and services in the region. It notes that much of the region's failure to capitalise on the tremendous growth in gross value of the region's base industries can probably be traced to the inadequacies in infrastructure and services (Cummings 1989:10). Local authorities were seen to be trying to improve aspects under their control but the other two spheres of government had done little. Much of the mailaise in many western Queensland towns (see Taylor 1989:24) can be attributed to the government's 'hands off' approach (see Hudson and Jensen 1991 for a more detailed appraisal of this approach). Until infrastructure and service improvements occur in locations like Normanton, little private enterprise development is likely to eventuate.

TABLE 12: ESTIMATED GROSS VALUE OF PRODUCTION IN QUEENSLAND GULF SHIRES



Source: Cummings 1989, Chart 5.

Boulia is a very small western Queensland town with around 300 people, 33% of whom are Aboriginal. Its town population has remained static but the number of people living in the surrounding rural hinterland has declined in line with decreases in the rural labour force. The major function in Boulia is administration of the shire with its 41 local government employees, although more people work in various private enterprise activities in the town.

Boulia was established in 1876 and it has remained a service town to its pastoral region. It represents the typical scenario of a rural service town surrounded by good cattle and sheep production but struggling to diversify its economic base and promote further expansion. Like Normanton, its major constraint is the dirt road to Winton and hence to the coast. After rain this road becomes impassable to standard, and sometimes four wheel drive, vehicles. Boulia lies at the crossroads between six destinations - Townsville, Rockhampton, Mt Isa, Alice Springs, Birdsville and Charleville. The greatest potential is seen to be in linking Alice Springs with Boulia via the Donohue Highway, thereby providing an alternative route from the Northern Territory to the Queensland coast. Lack of road funding to western Queensland has restricted tourism in this region as well.

Road development in western Queensland is commonly regarded as the most seriously neglected infrastructure requirement, especially when compared with other Australian states. The last significant road work program in this part of the state occurred during the 1961 to 1974 construction of the Beef Roads. Yet the state as a whole reaps considerable benefits from the primary industries operating out in the west. The pattern of inadequate return of resources to these peripheral regions is again evident.

In contrast to the upper two tiers of government, Boulia Shire Council has done what it can to provide the town with good facilities. Much of the credit for this goes to the foresight and dedication of an earlier shire president who, with the support of the rural councillors at that time, was able to provide the town with good sewage and water systems, a swimming pool, community hall, caravan park, hotel and a butcher shop which it leases. In addition, council maintains and contributes to tennis courts, an oval (not reticulated), the rodeo grounds and parks. Boulia is a well presented town but without an improvement in road links, it is difficult to see how Boulia can expand its size or diversify its economy. However, it is relevant to mention that a survey in 1989 (Hudson) revealed that 65% of the respondents wanted Boulia to remain a small village. This highlights the fact that people live in a variety of locational size groups for a range of preference reasons. The problem is that unless Boulia demonstrates some growth and maintains reasonable threshold numbers for particular services, the town will either lose services or fail to attract funding to improve their quality of life. This is because service assessment formulas do not give any weighting to the value of small scale rural or remote environments (discussed later). Wyndham has suffered for this very reason.

Wyndham (1886) was the major service centre for the East Kimberley region of WA for 80 years but its position has deteriorated, particularly over the last decade. It now is a town struggling to survive as it loses industry, population, services and other functions. There are two main reasons for its declining status. Firstly, the establishment of Kununurra, 100 km from

Wyndham, precipitated a situation where Wyndham lost its regional function. Kununurra became the focus of all government expenditure while Wyndham was bypassed. Only $0.75m was spent on Wyndham port over the 20 years that $97m went on the Ord River Scheme (Dillon 1986:3). This was followed by the addition of government services and functions to Kununurra described above. The regionalisation of Kununurra was done at the expense of Wyndham. Since 1969, 153 government positions were taken from Wyndham, an estimated loss of 612 people (Table 13). Over half these positions (87) went to Kununurra. The build up of population and resources in Kununurra prompted the relocation of the majority of local government personnel and functions out of Wyndham to its neighbouring town. Such decisions fueled the already strong animosity between these two towns.

The second major setback came when the meatworks closed in Wyndham in 1985. Distance from markets, difficult climatic conditions, union demands, and competition from other meatworks, all contributed to its downfall. The town lost 272 jobs but not all the employees left Wyndham. In spite of these losses, local residents express a high level of community satisfaction Table 16) and they fight strongly to try to stop the spiral of decline dragging Wyndham down.

During the latter part of the 1980s, Wyndham has been battling to attract another industry and maintain its service functions. Tourism to date has only had a minor input into the town economy, in spite of the enormous tourist potential. Wyndham retains its outback appeal. The town is set in an environment of dramatic ranges, salt flats, crocodiles, birdlife and gulf attractions. However, by 1989, Wyndham received only 10% of the 70,000 recorded visitors to Kununurra, largely due to poor publicity. This doubled in 1990 with the establishment of a Crocodile Farm.

An outline of the struggle to establish a Crocodile Farm in Wyndham is documented in the *Wyndham Watershed Report* (Hudson 1990b). The local entrepreneur, after obtaining WA's first crocodile export licence and building the farm, faced bankruptcy when the agreed upon government guarantee and hence bank loans were not forthcoming. After only a year of operation he lost all his assets which included the old meatworks land and 15 houses. The bank resumed the crocodile farm and the well designed associated buildings and gardens. A buyer is still being sought.

The events surrounding the Wyndham Crocodile Farm raise some pertinent questions. It is queried why a multi millionaire overseas investor was able to obtain $50m in loans and joint project deals for the Cable Beach Club in Broome, yet a local Australian entrepreneur, trying to established an export industry in Wyndham, was abandoned. The funds required for this project, over a five year period, were to be approximately $2.5m. Wyndham is a town desperately struggling to survive and needed this industry, not just from an economic perspective, but from a psychological one also. Furthermore, demand for crocodile skins cannot be met by the exisiting production in Australia, yet the WA government gave no assistance in research, crocodile survey work, or establishment incentives. A contrast with the Northern Territory government policies of support for their crocodile industry bears this out. It is also pointed out that the WA government received $100m in royalties from the Argyle Diamond mine, yet failed to allocate assistance to established this East Kimberley industry.

TABLE 13: CHANGES TO WYNDHAM'S POPULATION SINCE 1970 DUE TO SERVICE AND BUSINESS STAFF LOSSES

Date	Service/Enterprise lost	No Staff	Estimated no. of people who left as a result
1987	Kimberley Health Administrator (to Kununurra)	5	5
1972	Main Road workers (to Kununurra)	10	30
1973-77	Public Works Dept., plus mechanical and plant engineers and workshops (to Kununurra)	32	72
1977	State Housing (to Kununurra)	1	4
1978	Clerk of Courts (to Kununurra)	1	1
1978	Telephone exchange	16	
1980	DAA (to Kununurra)	3	5
1982	Customs	1	4
1985	RFDS Radio Bas		
1985	Dept Primary Industires (to Kununurra)	6	6
1985	Fisheries & Wildlife Inspector	1	4
1985	Telecom (to Kununurra)	6	24
1985	Meatworks	272	300
1985	Postal assistant	1	4
1986	SEC (to Kununurra	2	6
1986	DCS Aboriginal Resource worker	1	
1982-89	Water Authority (to Kununurra)	9	26
1982-89	Wyndham school teachers	6	8
1983-88	Shire Staff (to Kununurra):		
	Recreational officer	1	1
	Shire engineer	1	3
	Health inspector	1	2
	Works foreman	1	5
	Shire clerk	1	4
	Maintenance manager	1	2
1987	Kimberley Health administrator (to Kununurra)	1	5
1987	DCS District Officer	1	5
1987-88	Dental therapist and assistant	2	5
1988	Pathology technical assistant (to Kununurra)	1	1
	Hospital pharmacy stocks reduced		
1988	Kimberley Health clerical (to Kununurra)	1	
1988	Childcare Mothercraft Nurse	1	1
	Family Support outreach worker	1	
	Family Support coordinator	1	
1988	Prison officers	2	8
1989	DCS District Officer (to Kununurra)	1	4
1989	DCS Family Resource worker	1	

TABLE 13 continued...

Date	Service/Enterprise lost	No Staff	Estimated no. of people who left as a result
1989	Kimberley Health Promotion Officer	1	2
1989	Kimberley Health workers, part-time	2	
1989	Radiographer (to Kununurra)	1	1
	Hospital courier driver (to Kununurra)	1	1
1989	Joorook Ngarni training officer	1	1
1985-90	Marines and Harbours	10	15
1985-90	Business shed	16	12
1990	Social Security agents	1	
1990	Hospital pay officer	1	5
1990	RFDS: 1 pilot	1	6
	2 flight sisters	2	5
1990	Kimberley Health:		
	Regional Aboriginal Liaison Officer	1/2	
	Health worker	1	
	Registered nurse	1/2	
	No relief health sister		
1990	Wyndham Hospital: 7 nurses	7	7
1990	R & I Bank	1	1
	TOTAL NUMBER OF PEOPLE WHO HAVE LEFT WYNDHAM		603

The evidence suggests a biased approach in resource distribution has occurred. Key towns have been built up at the expense of less advantaged towns. It is little wonder that remote towns like Wyndham are locked in a spiral of decline. The WA government has provided no real incentive to develop Wyndham, in spite of eight consultancy reports recommending affirmative action policies. In fact, the withdrawal of services has continued with the removal of the RFDS in 1990 and the downgrading of Wyndham hospital. The focus has been on building up acute care at Kununurra hospital at the expense of basic primary health care in the Wyndham region. The destruction of what doctors described as 'a good little hospital' was like the final straw to the Wyndham community.

A loss in health status has a devastating effect on any community but one as remote as Wyndham feels this particularly. The hospital was a large employer in Wyndham and as staff is reduced, the effects flow onto the other services - the school, child care centre, post office, all of which came under the eyes of the rationalists as 'numbers' fell. Wyndham now has declined to 1,000 people, a recognised critical threshold for the survival of a range of services. In line with the recommendation for affirmative action outlined in the ninth report on Wyndham's future (Hudson 1990b), a community development position has been funded in an attempt to reverse the cycle of decline.

Funding for the Aborigines, who now form the majority of the population, has been the only significant government investment in the town. An Aboriginal community resource agency, Joorook Ngarni, was established in 1988 with funding for seven administrative and community development positions. Additional resources were provided to run the Wyndham Caravan Park and purchase a local supermarket. Wyndham Aborigines had expressed a desire to become part owners in the Crocodile Farm. Had this eventuated, it may have helped to retain local ownership of the crocodile industry. Instead, considerable monies were provided to undertake four consultancies, all investigating a local supermarket venture. Had a proportion of this money been spent on training the Aborigines to run the supermarket, then perhaps some Aborigines may in fact have been employed in the store, thereby avoiding aspects of dissatisfaction with this project. The choice of the supermarket project remains questionable when involvement in a crocodile farm appears a more appropriate and locally popular choice, especially when considered in the light of a long term venture.

A range of development potentials have been identified for Wyndham (see Hudson 1990). These include re-opening the meatworks (Wyndham is a better location for this industry than Broome which has pollution, traffic and locational problems associated with its meatworks), extending the crocodile farm into a hatchery, tannery and associated cottage industries, replacing the run down existing prison with a new rehabilitation prison which utilises horticulture and other forms of farming, a mini oil refinery, barramundi breeding and increased use of the port. A reasonable government incentive needs to be provided for any one of these developments to eventuate.

Summary

By focusing on seven small remote towns, it has been shown that there is a mix of private and government acitivities in these regions. In the case of Broome, private enterprise has played the major role through pearling and tourism development whereas Exmouth is largely a government defence town, although it has a potential to diversify into higher levels of private enterprise tourist acitivity. There are also prawn, fish, oil and limestone resources in the area. Kununurra, on the other hand, was given its initial impetus by the government funded Ord River Scheme, but now private enterprise plays the major role through the combined earnings from diamond mining, horticulture, agriculture, tourism and a growing commercial sector. Longreach until the 1980s was primarily an agricultural centre servicing the surrounding pastoral industry. More recently, the government component has become increasingly important as various educational and other departmental functions were located in Longreach. Tourism also has encouraged the expansion of private enterprise activities.

Other towns are much more dependent on government investment. Although Normanton lies in the centre of a productive cattle industry, little income flows into the town from this industry. Similarly, the prawning and fishing industry in the adjacent gulf ship their products for processing elsewhere. Government funds for Aborigines is one growing investment, in line with the expansion of this sector of the population. Boulia receives better support from its rural sector than Normanton and the local shire council has done much to invest in the town.

However, little funding has been made available to local Aborigines in Boulia, so this is not a particularly relevant component of the economy beyond the cash flow generated by welfare support. A lack of road funding has limited both Boulia and Normanton to increased tourism. Finally, Wyndham represents a town not only bypassed by government funding, it has actually been siphoned to build up its neighbouring town of Kununurra. A recent attempt at private enterprise through a crocodile farm received regional political support, but financial assistance was short lived and technical assistance for developing a new crocodile industry was virtually negligible. A complete disregard has been shown for this town, in spite of a number of good future development opportunities. Perhaps the newly appointed community development officer will be given the required government support to turn this situation around.

Therefore a range of investment approaches to small remote towns are evident. Private investment has been responsible for the extraction of rich resources, such as pearls, diamonds or prawns, leading to the development of nearby towns and villages. The private sector has also been the backbone to the extensive use of the land through the pastoral and agricultural industries, and the development of commercial and tourist sectors in service towns not too distant from the agricultural producer.

The remote towns discussed here demonstrate an important mix of private and public investment, challenging a belief that government investment is what keeps small rural towns going. Furthermore, not enough recognition is given to the significant contributions from local voluntary efforts towards facilities and services in small remote towns (not dealt with here), perhaps one reason why such organisations are in a state of demise. It has been shown that the major trend for the last three decades in the remote north of Australia has been one of expansion for the small service towns. This growth is due to new developments, increased inmigration, a natural increase of the Aboriginal population, and people staying longer in the north, many putting down permanent roots in the small towns. Non metropolitan growth elsewhere in rural Australia is still the predominant trend but the fortunes of rural towns varies in a similar manner to that described in the seven northern towns outlined in this paper.

The above analysis demonstrates the crucial role government plays in determining the economic future of rural and remote towns. Relatively small expenditures by government can firstly, provide an important direct stimulus for the local economy through the establishment of required infrastructure levels necessary for the growth of that economy. Secondly, government activity has a multiplier effect which can create an optimistic local environment attractive to private investment. It has been argued here that governments have a responsibility to spread the benefits gained from national resources in a more equitable way. There are also social and cultural reasons for providing an adequate quality of life for populations, such as Aboriginal or other disadvantaged rural groups who live in the less productive regions of Australia. This is the very basis of our taxation system - a transfer from the more advantaged people to the disadvantaged; policies which are supposed to separate Australia from third world countries. Instead, there has been a steady 'bleeding' of the country for the benefit of the city, culminating in what is now termed a 'rural crisis'. Wealth has been extracted from the periphery without an adequate return of an equitable quality of life. Service delivery is a major component of this equitable return. This will be briefly discussed below, focusing on education.

Service Requirements desired by Rural Inhabitants

A questionnaire survey of residents in six northern rural communities revealed that education, health and better roads were the major areas where more government spending was desired (Table 14a and 14b). The importance of access to better local education is especially significant because only some households have dependents requiring education, yet among the townspeople it received the greatest emphasis for improvement.

This research indicates that access to adequate health services is the most vital to rural people's psychological wellbeing. Rural people gave health higher priority than education in the survey. One reason why townspeople did not nominate health service improvements as the highest priority was because, in 1989, compared with education, these towns and rural areas generally were relatively well catered for in terms of expected local health services. This was particularly the case in the three northern Western Australian towns.[1] In contrast, the quality of local education was considered poor. In 1989 there was no senior high school in the Kimberley, for example.

Schools which have to combine Aboriginal and non Aboriginal education are particularly problematic and require experienced staff, not the flow of inexperienced teachers taking up their first postings. Aboriginal and non Aboriginal requirements and concepts about education can differ considerably. Similarly, very different views exist within each of these groups. Certainly the lack of pupil numbers has been one factor restricting the expansion of subjects and levels offered at rural high schools.

Rural education has been limited by divided interests. The main division is between those wishing to send their children away to private boarding schools and those desiring an improved local education system. Moneys allocated to the former tends to undermine the latter. Some argue that free airfares and boarding allowances encourage parents to send their children away from the region, thereby reducing the number of local students. This restricts the development of adequate secondary schools. There certainly are equity problems between the rural hinterland people, whose needs are lobbied for by the Isolated Children's Parent's Association (ICPA), and the rural town children. School children living outside towns are able to obtain allowances to board their children in metropolitan schools whereas rural town parents, in most states, receive no allowances if there is a local secondary school, no matter what standard it is. Research in the four New England communities showed that rural people had higher levels of education than the townspeople (Figure 1), perhaps reflecting this policy.

Rather than provide encouragement for rural town children to also board away in metropolitan schools, one solution would be to provide quality boarding in rural towns for children living in the district, and allowances to be geared to this end. These boarding facilities should not be run like the old hostels which were often poorly supervised and run on a financial shoestring, consequently losing the confidence and patronage of the rural people.

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1. Regionalisation policies for health services altered this situation in 1990 and two of the WA towns studied have had some of their health services downgraded. Hence priorities could well be different today.

TABLE 14a: REQUIRED GORVERNMENT SPENDING NOMINATED BY RESPONDENTS (percent)

		TOWNS:						
	*	Broome	Exmouth	Wyndham	Longreach	Normanton	Boulia	Ave
Education	1st	20	18	44	19	7	15	
	2nd	17	29	19	26	22	20	
	3rd	15	15	17	19	28	13	
	Ave	***17***	***21***	***27***	***21***	***19***	***16***	*20.2*
Health + Medical	1st	20	26	20	12	9	9	
	2nd	18	16	32	14	24	11	
	3rd	11	9	10	12	24	11	
	Ave	***16***	***17***	***21***	***13***	***19***	***10***	*16.0*
Recreat.	1st	15	11	10	13	26	11	
	2nd	16	15	20	15	6	13	
	3rd	14	18	14	17	6	13	
	Ave	***15***	***15***	***15***	***15***	***13***	***12***	*14.2*
Roads	1st	16	6	5	43	33	24	
	2nd	7	10	2	18	7	15	
	3rd	9	4	5	9	4	13	
	Ave	***11***	***7***	***4***	***23***	***15***	***17***	*12.8*
Community/ Welfare	1st	4	12	3	3	6	6	
	2nd	12	11	5	.7	20	17	
	3rd	9	13	20	14	9	11	
	Ave	***8***	***12***	***9***	***8***	***12***	***11***	*10.0*
Water	1st	4	16	2	3	0	2	
	2nd	4	3	0	7	2	2	
	3rd	2	10	2	7	4	6	
	Ave	***3***	***10***	***1***	***6***	***2***	***3***	*4.2*
Transport	1st	4	3	5	3	0	0	
	2nd	3	3	3	4	0	7	
	3rd	3	5	10	8	4	2	
	Ave	***3***	***4***	***6***	***5***	***1***	***3***	*3.7*
Power	1st	1	3	5	1	0	2	
	2nd	2	0	5	1	0	0	
	3rd	1	3	2	6	0	6	
	Ave	***1***	***2***	***4***	***3***	***0***	***3***	*2.2*
Mail	1st	1	0	0	0	0	11	
	2nd	4	0	0	0	0	0	
	3rd	3	2	2	0	0	7	
	Ave	***3***	***1***	***1***	***0***	***0***	***6***	*1.8*
Phones	1st	3	0	3	0	0	2	
	2nd	1	3	0	1	0	0	
	3rd	4	1	2	2	0	4	
	Ave	***3***	***1***	***2***	***1***	***0***	***2***	*1.5*
Other	1st	7	6	0	1	0	2	
	2nd	1	2	3	0	2	0	
	3rd	4	2	3	0	2	4	
	Ave	***4***	***3***	***2***	***0***	***1***	***2***	*2.0*

* = Respondents' preferences. This was a multiple choice question.

Q: If the governments were to allocate more funding to remote areas which three of the following things would you chose?

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TABLE 14 b: REQUIRED GORVERNMENT SPENDING NOMINATED BY RESPONDENTS (percent)

		RURAL:						
	*	Broome	Exmouth	Wyndham	Longreach	Normanton	Boulia	Ave
Roads	1st	15	9	58	46	33	32	
	2nd	10	6	19	23	16	20	
	3rd	10	12	7	8	18	24	
	Ave	***12***	***9***	***28***	***26***	***22***	***25***	*20.3*
Health + Medical	1st	8	24	23	3	30	10	
	2nd	19	6	16	15	19	24	
	3rd	8	6	19	13	23	12	
	Ave	***12***	***12***	***19***	***10***	***24***	***15***	*15.3*
Education	1st	10	24	10	18	5	17	
	2nd	6	15	32	8	37	5	
	3rd	8	6	19	3	23	2	
	Ave	***8***	***15***	***20***	***10***	***22***	***8***	*13.8*
Phones	1st	13	0	0	5	5	5	
	2nd	2	6	0	5	12	17	
	3rd	10	3	7	5	9	22	
	Ave	***8***	***3***	***2***	***5***	***9***	***15***	*7.0*
Mail	1st	8	0	0	0	7	12	
	2nd	6	0	10	13	2	17	
	3rd	4	3	0	13	5	10	
	Ave	***6***	***1***	***3***	***9***	***5***	***13***	*6.1*
Recreat.	1st	6	9	0	5	12	2	
	2nd	2	9	0	5	2	2	
	3rd	4	9	7	10	5	0	
	Ave	***4***	***9***	***2***	***7***	***7***	***1***	*5.0*
Power	1st	17	3	3	0	2	17	
	2nd	6	9	3	3	2	0	
	3rd	4	6	3	5	2	0	
	Ave	***9***	***6***	***3***	***3***	***2***	***6***	*4.8*
Water	1st	4	12	0	5	0	0	
	2nd	4	15	3	10	4	0	
	3rd	2	12	7	3	4	0	
	Ave	***3***	***13***	***3***	***6***	***3***	***0***	*4.6*
Community/ Welfare	1st	4	6	0	3	2	2	
	2nd	8	15	3	3	7	0	
	3rd	2	3	0	10	9	2	
	Ave	***5***	***8***	***1***	***5***	***6***	***1***	*4.3*
Transport	1st	0	0	0	8	4	2	
	2nd	6	0	0	5	0	0	
	3rd	0	0	0	10	2	5	
	Ave	***2***	***0***	***0***	***8***	***2***	***2***	*2.3*
Other	1st	8	3	0	3	0	0	
	2nd	0	0	0	0	0	0	
	3rd	2	0	7	0	0	0	
	Ave	***3***	***1***	***2***	***1***	***0***	***0***	*1.2*

* = Respondents' preferences. This was a multiple choice question.

Q: If the governments were to allocate more funding to remote areas which three of the following things would you chose?

The quality and standard of education in rural secondary schools is considered a major reason why people leave northern towns (Table 15). In an era where skilling people is receiving increasing emphasis, particularly in an economic climate of high unemployment, parents who are not able to afford to board their children away often consider they are limiting their children's future if they do not move closer to better education.

TABLE 15: WHY PEOPLE THOUGHT OTHERS HAD MOVED (%)[a]

TOWN	Job	Education	Retirement	Other	N	% of survey
Broome	27	12	10	51	127	80
Exmouth	65	24	2	9	98	89
Wyndham	46	20	2	32	50	85
Longreach	55	7	30	8	84	92
Normanton	32	21	5	42	19	35
Boulia	17	39	22	22	18	33

a = Percent of N (percentages total 100)
N = Number of respondents who supplied information

Further education and training is another area where rural people have limited access and involvement. In the northern town survey, only in Longreach did respondents record some level of participation. In the other towns, just one or two residents were undertaking further study.

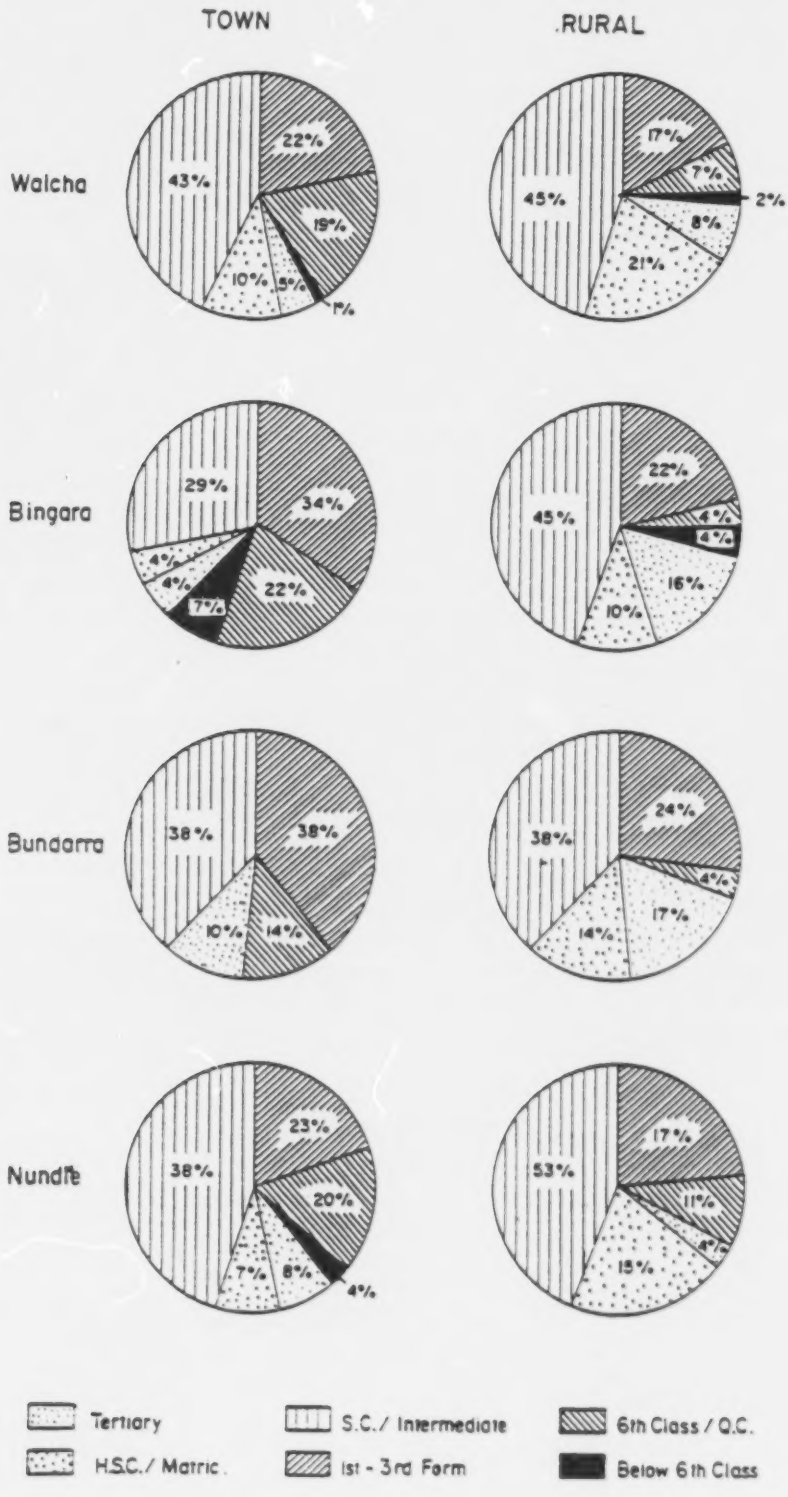
Rural education is one of many services considered of inferior standard to that found in larger centres. This poses the question that in spite of deficiencies, why do long term residents remain in rural locations and why are others settling in non metropolitan locations? When residents are asked how satisfied they are living in their rural communities, they record very high levels of satisfaction (see Table 16).

TABLE 16: LEVEL OF RESIDENTIAL SATISFACTION (%)[b]

TOWN	Very Satisfied	Satisfied	Not satisfied	N	% of sample
Broome	20	70	9	156	98
Exmouth	34	55	11	110	100
Wyndham	41	59	0	59	100
Longreach	35	62	1	89	98
Normanton	13	69	0	43	82
Boulia	24	59	6	48	89

b = Percent of Survey (percentages do not total 100)
N = Number of respondents who expressed an opinion

FIGURE 5: COMPARISON OF TOWN AND RURAL EDUCATION LEVELS



The Rural Life Style

Rural dwellers express particular advantages associated with living in the country. They generally include these advantages under the term 'the rural life style'. There is insufficient recognition of the intangible attributes of the rural life style with a consequent lack of understanding on the part of many urban dwellers, and policy makers, about why people live outside the larger urban areas. Too much attention has been focused on the negative problems of the bush and not enough said about the attractions. This situation arises partly because rural people know themselves what draws them to the rural life style but they do not 'market' the attributes sufficiently. As a result, the benefits associated with living in a rural environment are not given adequate weight in evaluation processes and 'viability' discussion.

The importance of the rural life style is evident in Table 17 where employment factors were of minor relevance compared with the advantages of the rural lifestyle. Respondents referred to the clean air, peace and quiet, relative safety due to low crime rates, lack of congestion and slower pace of life. Other advantages mentioned include living in a small scale human environment where the community is perceived as more friendly and personalised. This compliments the larger scale physical environment of wide open spaces, the beauty of the country and living close to nature. Some of these advantages were referred to separately, and are therefore coded in Table 17 as such. However, all of these characteristics fall under the general heading of the rural life style. In the case of the rural hinterland dwellers, rural life style is also intermixed in the employment advantage, because for those of the land, working with animals and living in the country or outback is part and parcel of the rural life style. In contrast, financial advantages are few but people make trade offs to live in rural areas.

It is difficult to give an economic evaluation of these advantages but there are a whole range of reasons why alternative living environments should be maintained. There is an inherent value in maintaining cultural diversity within Australia. Rural environments have different economic, social and cultural characteristics to urban regions. Just as conservationists stress the need to maintain a diversity of fauna and flora habitats, so should the need to maintain a range of 'habitats' for people be recognised. It is important that people have the opportunity to move from the urban to rural and vice versa as part of an enriching process in one's life cycle. Those who suggest that it is uneconomic to support so many rural towns, not only fail to appreciate that the productiveness of rural regions has to be considered within a regional economic framework which incorporates all of those who live there, but they also fail to understand the value of our rural communities. A quick trip through rural towns in a car gives no insight into just what life is like in rural Australia. Many policies have eminated from superficial judgements based on an inadequate understanding of regional economics and the value of the rural life style.

Conclusion

The thrust of this paper is to argue that viable rural towns are the infrastructure for a sound national economy, a stable regional economy and an attractive rural life style. It is suggested

that policies should aim to develop a hierarchy of rural and remote towns which provide a comparable range of basic services and infrastructure to that found in larger urban areas. This is far from the case.

The future of rural and remote towns will be enhanced if a three pronged approach is adopted. Firstly, governments need to stablise towns and create environments for private investment. This is not done by selecting key locations and bypassing the other towns in the region, or by removing services from the smaller settlements. The evidence shows that this creates an unbalanced development process. Rural areas need a hierarchy of towns for a diversity of working and living environments. The issue of who owns the regional resources and what forms of cross subsidisation occur should be further explored in an effort to obtain a fairer deal for the rural sector.

Secondly, private enterprise requires greater incentives to establish in rural and remote regions. These include tax incentives, the simplifying and cutting of 'red tape' procedures, research and marketing help for value added industries, access to better information about rural regions and access to adequate rural infrastructure and services.

Thirdly, rural community residents need to understand the importance of unifying their interests. Divisions between rural and town interests or along party political lines have served to impede the rural lobbying power for major policy structural changes which will benefit rural regions as a whole. At a localised level, the importance of shopping locally is a first step towards a better town economy.

Long term sustainable development in rural towns will be best achieved by diversification of their economic base. Towns which manage to maintain a sound commercial centre, attract some secondary industry, encourage a moderate level of tourism, obtain government investment and staff, and integrate well with their surrounding regional enterprises, will have a better chance of surviving the cyclical swings of markets and the economy. Policies should be aimed to achieve this end through an integrated approach of public and private investment.

The growth of non metropolitan Australia has occurred in spite of the natural economic advantages of metropolitan regions, inspite of the political weight of the larger centres of population and inspite of the inadequate return of resources to many of the rural and remote regions. This supports the evidence which shows that there are inherent attractions to living in rural Australia. The value of the rural life style is inadequately understood or recognised. In an era of sustainable development, this needs to be broadened to include a range of desirable human living environments in a nation seeking ecological diversity.

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Quantifying access to services in remote and rural Australia

Dennis Griffith, *Director (Planning & Revenue), Northern Territory Department of Education*

The topic I wish to address is one that concerns all people living in rural and remote Australia. Anyone who lives in rural and remote Australia is faced every day with the issue of either accessing or providing services of various kinds such as education or health care or obtaining or providing goods. The more distant people are from a service or from the clientele they are trying to service, the more difficult it is in terms of cost, transport or communication to overcome the barriers that distance imposes. It is a well established fact that distance translates into cost and unfortunately the only way to overcome the disadvantage of distance is by incurring costs. Only by being able to quantify these costs can the real disadvantage of distance be measured. How this disadvantage is measured is the focus of this paper.

Why Quantifying Access to Services is Important

From the earliest days of the federation it was acknowledged that there were disparities between the founding colonies (later states) in their respective economic bases and stages of economic development. It was because of these disparities that the states agreed, as the price of becoming a unified nation, to the transfer of funds from the states with larger populations and with more advanced development to the less populated and less developed states. The rationale for this transfer was to ensure that the poorer states would be able to discharge their obligations as members of the federation and provide all states with a level of funding to enable them to function at a level not appreciably below that of the other states.

This was the 'Principle of Fiscal Equalisation' which is the *raison d' etre* of the Commonwealth Grants Commission. In short it was agreed and understood that in the interests of a developing nation the states would share the burden of development and the provision of services. The Commonwealth's commitment to fiscal equalisation is still being voiced and resources still allocated, although the methodologies to achieve this are somewhat questionable.

Every year commonwealth, state and territory governments allocate millions of dollars to alleviate differing kinds of disadvantage. This paper is particularly concerned with the allocation of resources to remote and rural areas by the Commonwealth Government on a national basis. The major allocation of resources is to address disadvantage in rural and remote areas and target populations that have restricted access to services due to population dispersion and geographic isolation. Some examples of that commitment can be evidenced by the fact that over the last decade the Commonwealth Government has introduced programs such as the

Country Areas Program which aims to 'alleviate the substantial and enduring educational disadvantage of many country children and their families which stems from restricted access to social, cultural and educational activities and services' (Commonwealth Schools Commission, 1982, p49).

According to the 1992 Administrative Guidelines published by the Department of Employment, Education and Training the objective of the Country Areas Program is to assist 'primary and secondary schools and community groups...disadvantaged by restricted access to social, cultural and educational activities and services, as a result of geographic isolation' (DEET, 1992, p103).

There is further evidence for that commitment. For example, in 1987 the Commonwealth introduced a policy statement on Rural and Regional Australia, in which one of the key policy aims was 'to ensure that all Australians have the opportunity to enjoy a high standard of living through vigorous and sustainable economic development, supported as necessary by a full range of public services' (Hawke, 1989, p2). This was reaffirmed in the document entitled 'A Fair Go' (1989 p1), in which the Commonwealth acknowledged that the rural sector has a key role in the process of the nation's structural adjustment and future. It was important, therefore, that rural Australians have adequate access to education and training and the other support services available to their fellow Australians.

Unfortunately the repeated commitments of support to rural and remote populations is not reflected in either the Department of Employment, Education and Training specific purpose programs or in the Commonwealth Grants Commission's Population Dispersion resource allocation methodologies. If rural and remote disadvantaged groups are to be assisted it is essential that the formulae and resource allocation methodologies accurately identify those populations that have the greatest degree of disadvantage in accessing goods and services.

Impediments To Allocating Resources To Rural and Remote Areas

There are two major impediments in allocating resources to overcome the restricted access of remote and rural populations. The first one is that the Commonwealth is reluctant to transfer resources from the densely populated and politically strong states to the large sparsely populated politically weak states. This may be politically expedient but it undermines to a large extent the fundamental principles of both social-justice and fiscal equalisation.

The second impediment is the absence of an objective measure of relative access to services or a reliable definition of rural and remote areas. It is this second factor that will be the focus of this paper, central to which is a definition of what constitutes a rural or remote area.

Over the last decade there have been several attempts to define rural and remote areas. Different approaches have been tried using population density (Holmes, Sparselands, 1981), time/distance models (Griffith, 1983), distance from various population centres or groupings of population centres (Faulkner and French, 1983) and calculations of relative space within

Australian Bureau of Statistics levels of data collection (Arundell, Garnaunt and Wilton, 1991).

Other approaches include that used by the Australian Taxation Office (Taxation Zones Commonwealth Grants Commission, 1988, p182), the Grants Commission Remoteness definition (Commonwealth Grants Commission, 1988), the Bureau of Transport Economics Access to Services (1980), the Commonwealth Schools Commission's (now DEET's), and the Country Areas formula. All of the above have attempted to define rural and remote areas without success. To provide a clearer understanding of the issues a series of maps (attached) will be used to demonstrate the problems that researchers face in trying to define rural and remote areas or relative access to services.

Previous and current approaches are summarised briefly. However, they provide an interesting insight to the problems facing a researcher in this area. Figure 1 is the first attempt to determine thresholds of access to services by Griffith in 1983.

This map was developed after consultation with officers from several of the states who had first hand experience of living and working in rural and remote areas. These consultations resulted in the development of two service access thresholds. One at 150 kms from >10 000 population centres and one at 300 km.

These distances were determined on the basis that 150 km was about the limit a person would normally travel by road to obtain a service and be able to return the same day. The 300 km threshold was thought to be the distance that would require a person to overnight at the population centre providing the service.

Although this approach was subjective it appeared to have some face validity and the map was adopted by the 1985 Commonwealth Country Areas Review Committee. The map was also adopted by the 'Schooling in Rural Australia' report after some rather crude modification. (Figures 2 and 3) The problem with this approach is that it is subjective and divides population centres crudely into categories on the basis of distance.

Holmes (1981) used population density to develop his classification of 'Sparselands' (Figure 4) whereas distance from various population centres or groupings of population centres was used by Faulkner and French, (1983) (Figure 5). Figure 6 demonstrates the comparability of Holmes 'Sparselands' with Faulkner and French's -6 remoteness contour. The Holmes approach relies entirely on population density as a measure of relative access. The approach does not differentiate between areas of like population density having differing access to services. Faulkner and French used an approach that classified areas into regions of differing degrees of remoteness but did not allow for differences in service access within those areas, nor do the degrees of remoteness allow the relative access to services to be quantified.

Calculations of relative space within Australian Bureau of Statistics (ABS) levels of data collection was used by Arundell, Garnaunt and Wilton (1991) (Figure 7). The major problem with this approach is that the classification relies on ABS data aggregated at the Local Government Area (LGA) and Statistical Local Area (SLA) level, thereby failing to show the

wide differences of access of population centres in sometimes vast SLA's and LGA's.

Other approaches by the Australian Taxation Office Taxation Zones (Figure 8), the Grants Commission remoteness definition (Figure 9), the Bureau of Transport Economics (1980) and access to services (Figure 10) all attempted to define rural and remote boundaries. These approaches rely heavily on SLA and LGA level data, thereby aggregating and equalising the relative access of all population centres in those LGA's and SLA's.

Finally, in 1990, the Northern Territory Department of Education undertook an extremely detailed mapping exercise in an attempt to overcome the previous problems in using population density as a method of determining the relative remoteness of population in Australia. This approach divided Australia into 25 km x 25 km geographical units to be able to identify pockets of sparse population even in densely populated areas. The map (Figure 11) provides a clear indication of population density in Australia and was used in the Australian Education Council's 'National Report on Schooling in Australia' (Statistical Annexe 1989 p6). Although the map provides a very detailed analysis of population density it does not provide a clear cut demarcation of urban, rural and remote areas.

All of the above approaches fail to provide an objective method of defining rural and remote or relative access to services. The reason for this failure can be attributed to various factors, such as subjective elements being adopted in the approaches, or by using Australian Bureau of Statistics (ABS) data units of a size, such as Statistical Local Areas (SLA) and Local Government Areas (LGA) that are too crude to identify the characteristics of remote areas and the population centres that are in them. Wherever the boundary is drawn there are still differing degrees of population dispersion and access to services on either side of the boundary. What is needed is a new approach, an approach that is logical, objective and can classify population centres on the basis of their relative access to services. This was the specific purpose for which the Service Access Frame was developed.

A New Approach - The Griffith Service Access Frame

The 'Service Access Frame' (SAF) is a three dimensional model objectively derived to quantify relative access to activities and services. It should be emphasised that whilst the SAF is a specific model, its applications are flexible enough to provide a variety of methods whereby clients can approach answers to specific problems.

The Service Access Frame is a model using several component parts to quantify the relative access of any population centre to services. To do this accurately the model has to be capable of being service specific, as people may access different services from different service centres. The basic unit of population analysis used in the approach is the ABS Collection District. This allows detailed analysis of the populations in population centres and geographical areas to be undertaken. In this model each population centre is given an individual Service Access Profile.

The Service Access Profile is developed using the Service Access Frame. The Service Access Frame is built from three elements that quantify the relative access of the population centre.

1. **Population Centre Size** is the first leg of the frame. Population centre size is a well established indicator of the range of services available within the population centre. The validity of using population centre size and Central Place Theory in Australia has been established by research in Tasmania (Scott 1964), South Australia (Smailes 1969) and Queensland (Dick 1971).

2. **Time Cost Distance Unit.** The Time Cost Distance Unit allows the relative time, cost and distance from the service centre to be calculated for each population centre. The time/cost/distance unit incorporates the average distance travelled by the average motor vehicle on all road surfaces per hour. The cost of the traveller's time is calculated by using the national modal wage. Vehicle costs are calculated on the basis of depreciation and fuel consumption which are built into a standardised national unit. Air travel can also be built in.

3. **Economic Resources** available to the population of the centre being assessed are calculated from the Australian Bureau of Statistics Index of Economic Resources (ABS 1990). The Economic Resources Index identifies the resources that are available to a Community to overcome an access to services disadvantage. The three components of the Service Access Frame are combined to derive a service access score.

The three component parts, or legs, of the Service Access Frame combine to provide a profile and a score for each population centre in Australia. The profile identifies the level of services to be expected in the centre and what the cost will be for persons accessing the service from another centre in time and monetary value. The population centre's ability to pay for access to the service is taken into account by the third leg. By adopting this approach the geographical location of a centre, whilst still a major component of the profile, is not the determinant of its relative access status.

Population size and economic resource status allow a more discriminatory profile of access to services to be constructed.

Advantages of the Service Access Frame

An advantage of the Service Access Frame is that it will identify population centres that have limited access to services in the densely populated areas whilst still identifying the greater disadvantage of access to services in centres distant from metropolitan areas.

Another major advantage of this approach is that it does not need the artifice of a boundary to identify relative access to services. The approach is objective as every element of the frame rests on hard data or on established geographical theory.

Finally the advantage to administrators is that the Service Access Frame allows extra indicators to be added to more specifically targeted needs. An example would be if it was decided to add

an Educational and Occupation dimension to the frame. This could be achieved by ranking the population centres that score below the Australian mean on the Index of Education and Occupation and add them onto the Service Access Frame. The Frame is designed to be a very adaptable and efficient targeting tool.

The practical application of the Service Access Frame can be assessed by demonstrating how it is applied to a specific service. In an hypothetical model it is assumed that a service can only be provided from the nearest capital city. Figure 12 shows the time/cost/distance bands for calculating the distance from the State and Territory Capitals.

The hypothetical model shows the locations that suffer the greatest distance disadvantage. To determine the profile of any population centre one must determine its population and score it on the first leg of the frame. Then the time/cost/distance bands are calculated between the recipient population centre and the service centre. Finally the economic resources score is calculated and the figures totalled using a score derived from their relative weightings. This score, the Service Access Score, allows population centres to be compared objectively for relative access to that service.

In Figure 13, state boundaries have been included to demonstrate the distortion that can occur in accessing services from the nearest service centre, in this case the nearest state capital. Towns adjacent to service centres in other states cannot access services that are a state responsibility. Education is a state responsibility and as such is subject to a state border distorting the access to that service.

Access models and maps can be developed for any service. Once the service and the service delivery centre is identified it is a simple matter to build a discrete service frame for that service. Figures 14 and 15 show the flexible nature of the frame using service centres of 20000 plus population at the national level and at a state level in New South Wales. Figure 16 shows the situation in Queensland for service delivery centres with more than 10000 people.

Access to services can be aggregated to provide comparative access data between the states and Territories. Statistics for population analysis can be derived from ABS Collection Districts the data that underpins the Service Access Frame.

Conclusions

Population density and crude ABS data analysis has failed to provide a meaningful measure of access to services. Boundaries defining rural, remote and urban are relatively meaningless in calculating eligible target groups for disadvantaged funding because of their crudity.

The Service Access Frame is a model that defines access to services on objective data that can withstand critical analysis. The Service Access Frame will allow population centres to be targeted on the basis of their Service Access Score rather than on the basis of their geographical location in relation to an often meaningless boundary.

The Service Access Frame, if utilised at the national and state level, will allow policy makers to allocate resources on the basis of identified need. It will also provide a tool by which current formulae and resource allocations to rural and remote areas can be tested and evaluated.

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FIGURE 1: Population Distribution (Griffith, 1983)

FIGURE 2: Rural Australia and Population Distribution (Schools Commission, 1987)

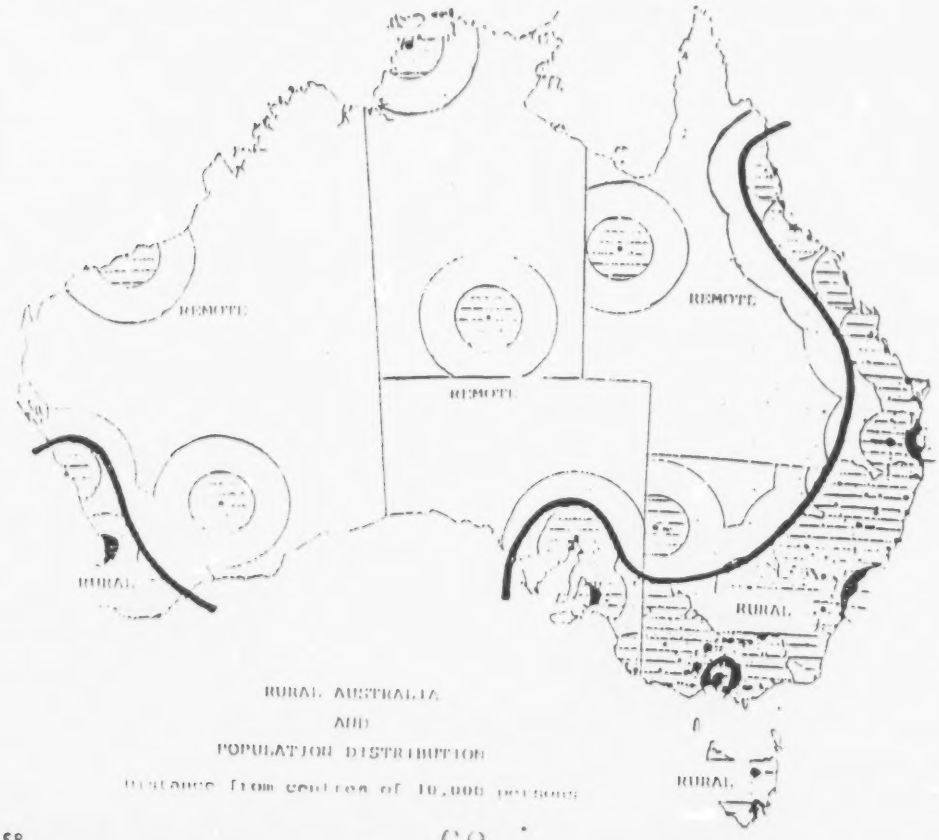

FIGURE 3: Definitional map of rural Australia (Schools Commission, 1987)

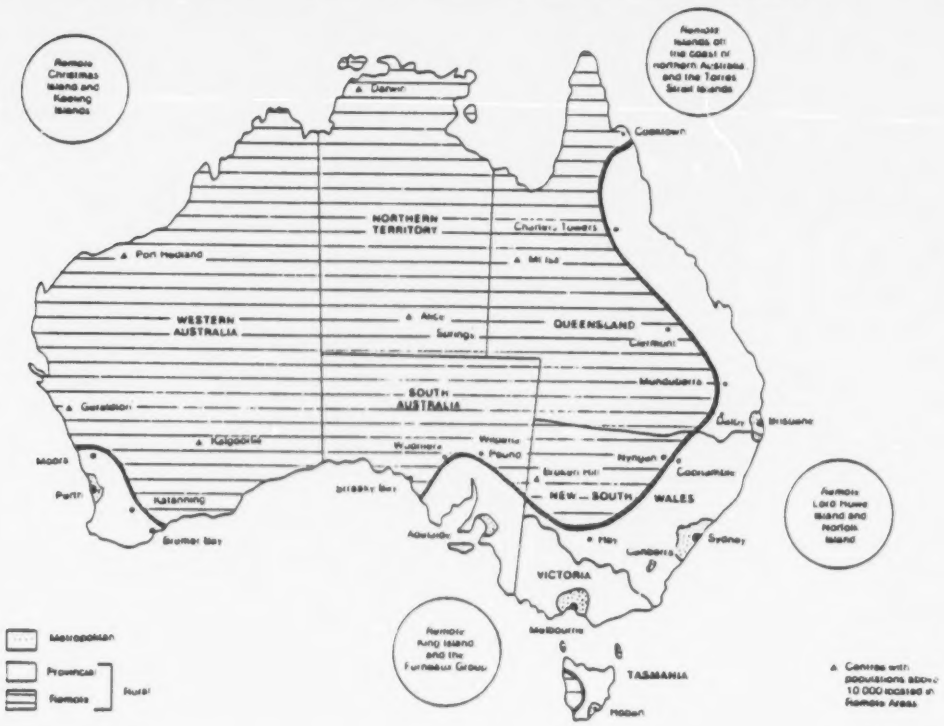

FIGURE 4: Sparselands in Australia (Holmes, 1981)

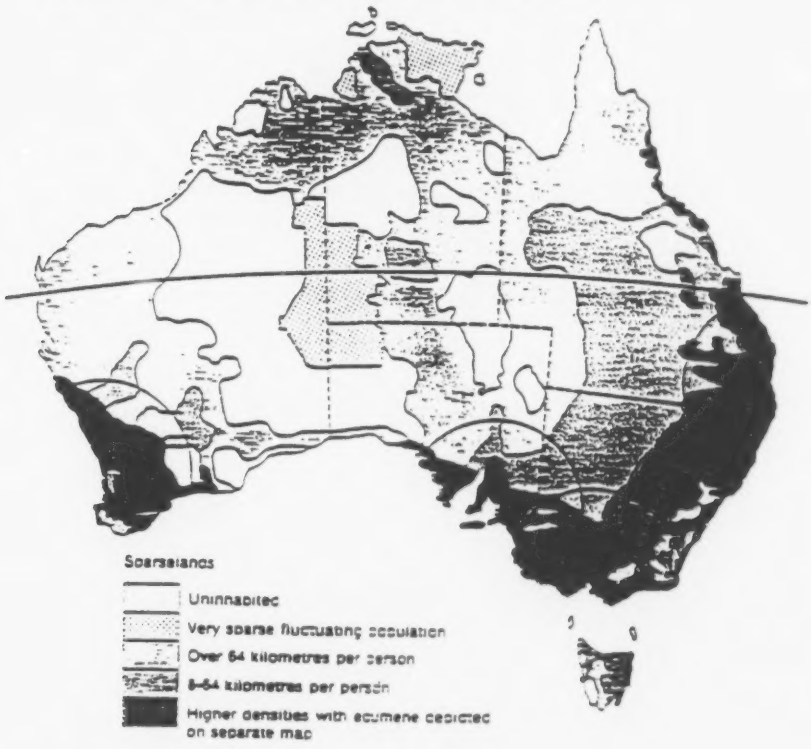

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FIGURE 5: Contours of Remoteness (Faulkner and French, 1983)

FIGURE 6: Remote regions within Australia: Comparison of -6 remoteness contour (Faulkner and French) and Holmes' boundary of the sparselands (Faulkner and French, 1983)

FIGURE 7: Rural, remote and metropolitan Australia: A distance-based regional classification (Arundell, Garnaut and Wilton, 1991)

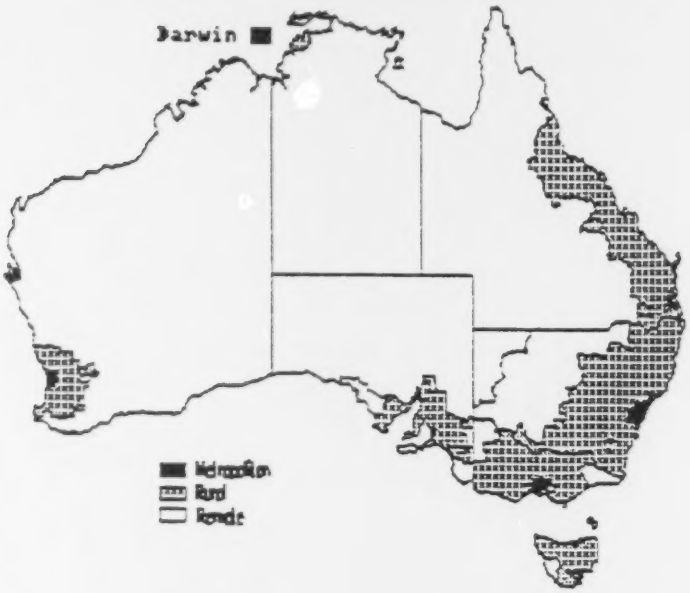

FIGURE 8: Zones of remoteness identified for taxation purposes

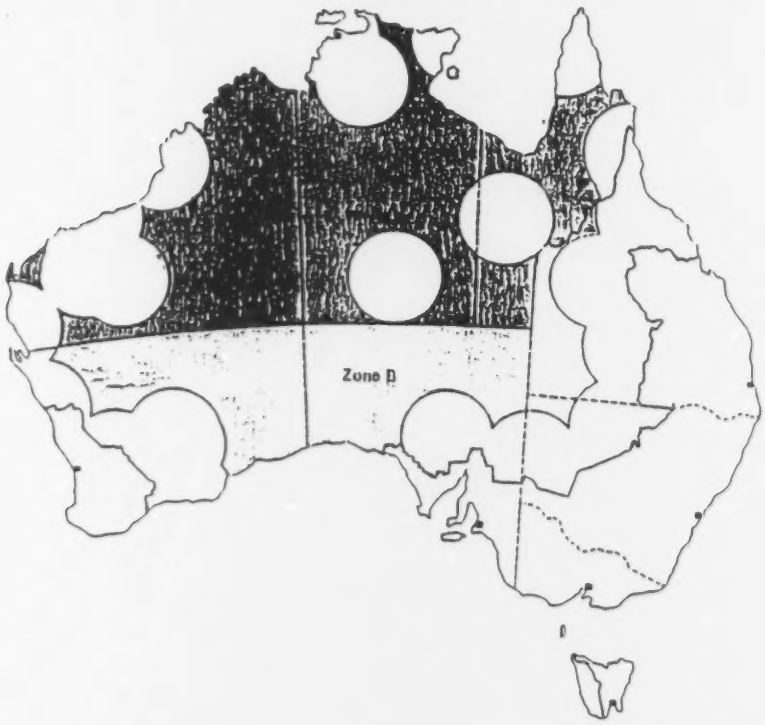

FIGURE 9: **Rural, remote and metropolitan regions (Bureau of Transport Economics, 1980)**

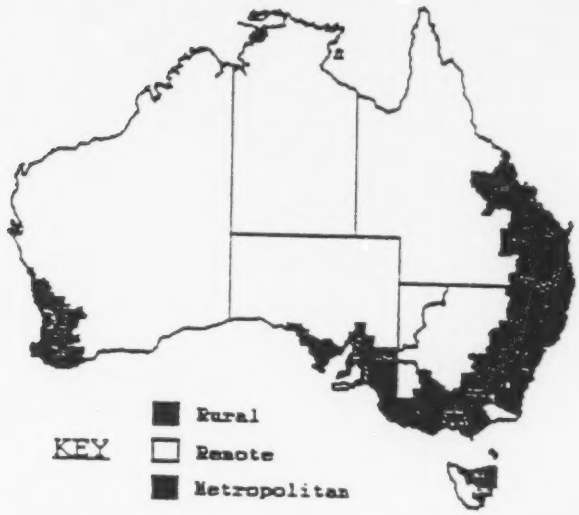

FIGURE 10: Access to Services (Grants Commission)

FIGURE 11: National population density analysis (NT Department of Education, 1990)

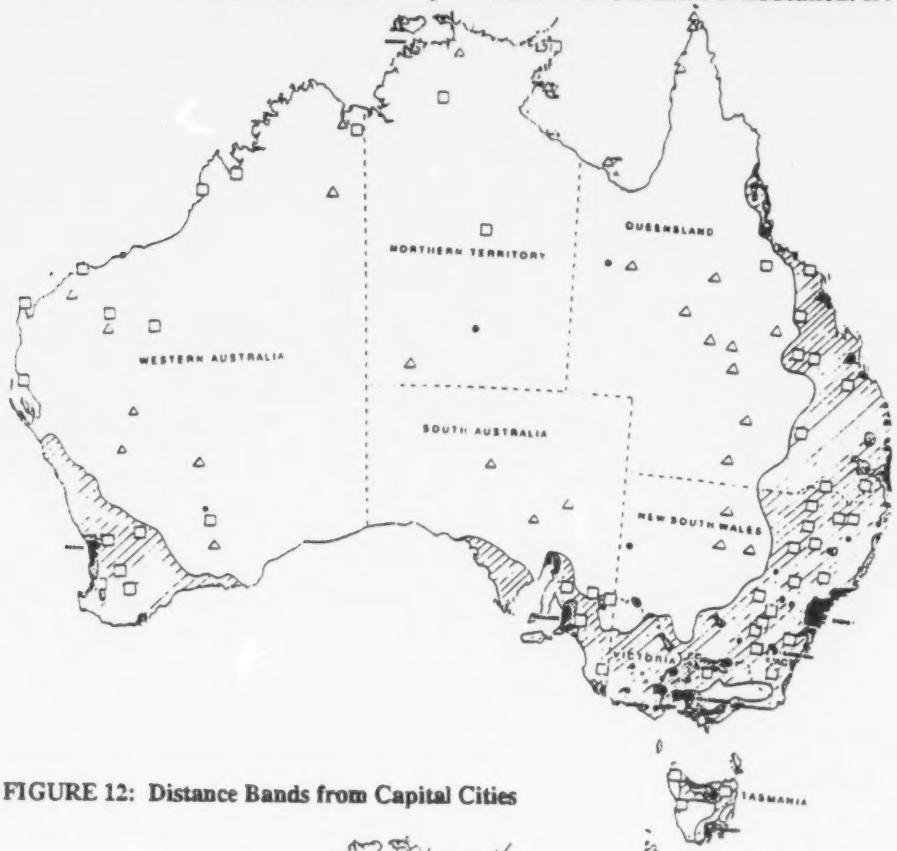

FIGURE 12: Distance Bands from Capital Cities

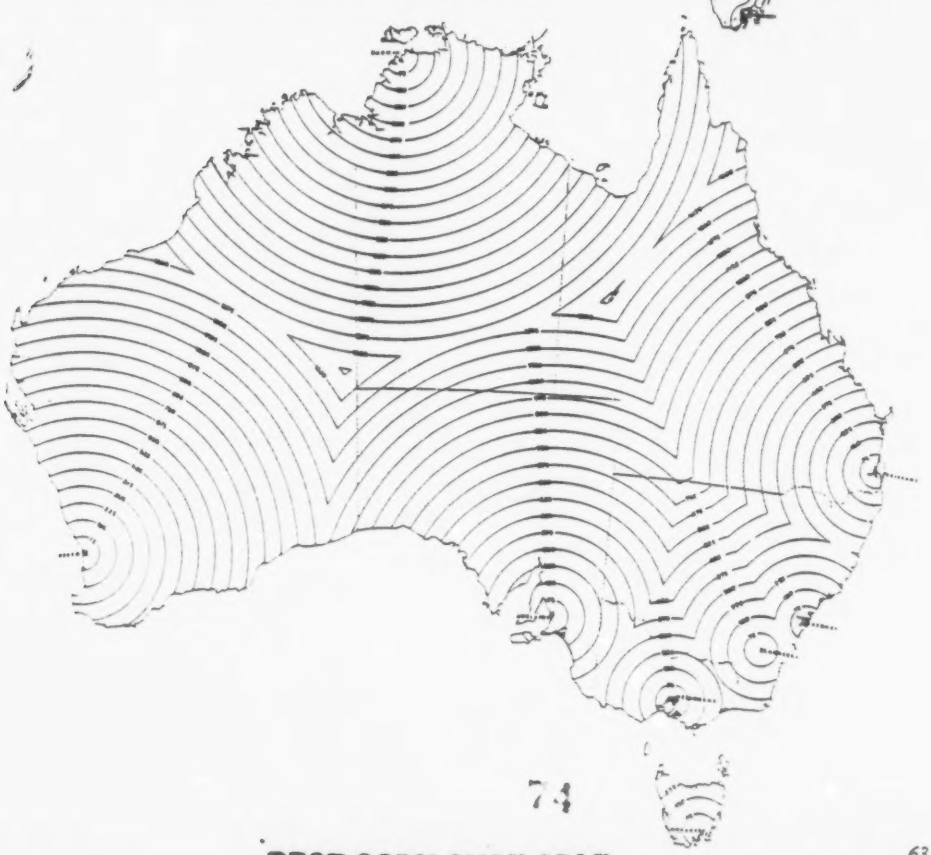

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FIGURE 13: Distance Bands from Capital Cities with State Boundaries

FIGURE 14: Distance Bands from Service Centres with 20 000+ Population

FIGURE 15: Distance Bands applied to New South Wales Service Centres

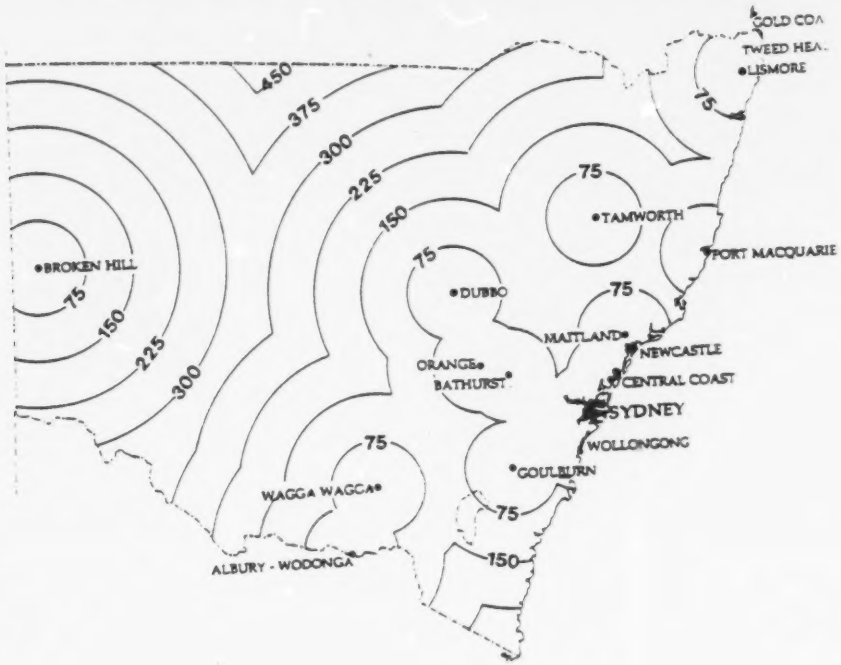
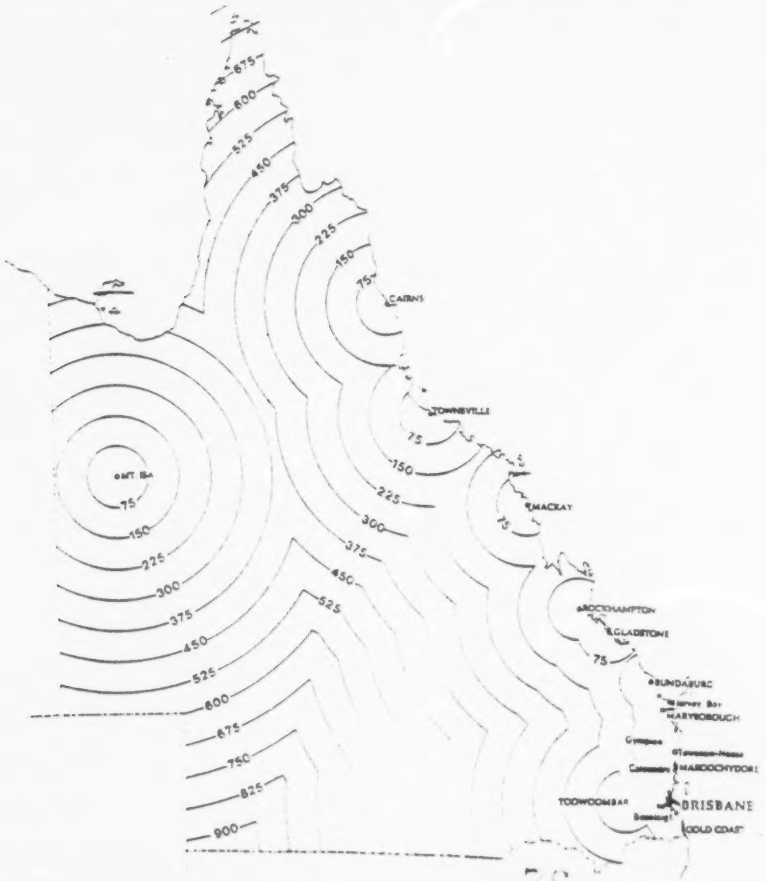


FIGURE 16: Distance Bands applied to Queensland Service Centres



Education, Equity and the Crisis in the Rural Community: An Integrated Framework

G J Spring, *Secretary, Northern Territory Department of Education*

Abstract

The paper attempts to demonstrate how communications technology within a national framework, the development of local partnerships through community education centres, open access learning centres, and other such jointly planned activities, can provide an integrated system which can assist in bridging the 'quality gap' for rural areas.

Two key aspects of an integrated framework are examined in detail:

1. How the 'quality gap' in rural areas can be reduced through the development of a national communications policy and framework for the delivery of services to formal and non-formal programs of education and training in schools, technical and further education and higher education including those in rural areas.

   The examination of this area is wide ranging and includes the links between such a framework and the delivery of curricula, implementation of strategies and structures. It argues that a coordinated approach assisted by communications technology will enable a better and more cost effective way of improving services to rural areas. Special emphasis is given to the role that open access learning centres and community education centres can play in bridging the quality gap for rural areas.

2. How local rural schools and colleges can be transformed by developing partnerships between the school and the community.

   The paper argues that open access learning centres and community education centres can be a focus for the development and delivery of formal and non-formal educational programs designed to meet a fuller range of relevant local employment, education and training needs in local rural communities. These centres also provide access to the range of courses not normally available in rural areas through the links described in (1) above.

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This paper provides a case study analysis in considerable depth of recent experiences in Australian education, also drawing on recent experience in OECD countries and from Asian and Pacific Regional case studies. By highlighting the underlying forces at work which have led to rapid changes and by underlining successes and failures, it is hoped other educators will be in a position to draw relevant comparisons with their own situation.

Against this context some of the main thrusts being investigated at present are:

1. Collaboration between the national government and states (in a federal system) or between central and provincial governments.
2. Collaboration across education sectors (higher education, TAFE and schools) and between public and private providers
3. Harnessing local dynamism by devolving appropriate decision-making responsibility to the local level and broadening the base of school/college services to match local needs and priorities.
4. The setting of new national targets for post compulsory education and training which encompass schools, higher education, TAFE and other training and which identify target levels for attainment as well as participation.
5. Higher productivity through the use of technology where it allows:
   - flexible access by the learner;
   - access to larger audiences in areas of scarce teaching expertise;
   - access by rural learners who have no other options available.
6. Cost substitution, where communications technology can produce more 'time on task' or where substituting the costs of existing delivery mechanisms e.g. reducing travel budgets to provide funds for installing and maintaining 'distance education delivery'.

NOTE: The author has recently completed a report for the Australian Education Council (National and State Education Ministers) on ***Mobile Students: Improving Education in Remote Localities***. Recommendations from that report are now being implemented. The author is also the chairman of a National Working Party to develop an open access curriculum framework for national telecommunications delivery, covering three sectors of education: Higher Education, Technical and Further Education, and Schools.

1. Introduction

Australia is a nation undergoing profound and lasting changes to its employment, education and training infrastructure. In the 1990s Australians are at last beginning to focus on the need to be a 'clever country', to derive value added wealth from the extraction and export of raw

materials and so provide both the impetus and security for economic and social survival into the next century.

The changes taking place in Australia are such that is has been able to benefit quickly from developments elsewhere in the OECD countries and in Asia particularly where these developments address vocational education and training through attitudes which reflect a deep seated commitment to life-long education. Australia's transition from a simple provider of raw materials for near neighbours to an economic force with sustainable economic growth based upon the acquisition of skills, depends on its gaining a competitive edge in those things it can do well, particularly so in a world increasingly influenced by the economic and political pressures of the twin 'united states' - Europe and America. It has no choice but to make better use of its human and physical resources.

In Australia the question of reducing the quality gap between urban and rural areas has been broadened to include all those disadvantaged by 'distance':

- those whose personal situation makes it difficult for them to get institutional access (such as people who are ill or incapacitated or involved in the care of such people);
- those in areas where teaching expertise is scarce in normal schools and colleges;
- those beyond school age who wish to upgrade their qualifications but cannot unless education or training is delivered at home or in their workplace.

For this decade at least, it appears certain that major increases in resources for education are unlikely. To close the quality gap we have to be more productive within our existing resources.

2. *Overview of recent relevant changes in education and training in Australia and OECD countries*

2.1 National Developments

Over the past decade, and particularly the last five years, Government policies on education, employment and training in Australia have undergone marked changes in approach and orientation. The aim of these changes has been to establish nationally agreed priorities between State, Territory and Federal governments to guide the allocation of increasingly scarce resources and to create an environment in which employment, education and training form parts of an integrated whole. Some examples of the extent of these changes will be addressed later in this paper.

The fundamental changes made to date will provide the basis for further education, employment and training reforms flowing through the 1990s and into the next century. In other words, what Australia has seen so far is a small scale revolution which is the precursor of far larger developments yet to be realised.

Specific issues and developments being addressed which are relevant to this paper now include:

- raising the overall level of employment related skills and workplace competencies;
- strategies to form a coherent pattern of education, training, work experience and flexible entry to the workforce, focusing on the 15-19 year old age group;
- a nationally consistent approach to the assessment of education and training which links competencies, (including the recognition of prior learning), to jobs which have been redefined, a restructured workplace, and salary levels;
- multi-channelled articulation which links schools, vocational education and training and higher education with industry requirements for competency based standards and nationally consistent skills;
- partnerships between public and private education providers designed to improve the quantity and quality of training for and within industry through competency based approaches which reduce duplication and eliminate review;
- modular school and vocational education courses which enhance open access learning;
- and the design and delivery of self-paced learning through regional and remote centres.

2.2 *State and Territory Developments*

Australia is a federation of sovereign States and Territories. State and Territory Governments have the prime constitutional and funding responsibility for education and training while the Commonwealth Government has the major responsibility for employment and labour market programs.

Developments at the national level, of the type listed above, are therefore being paralleled at State and Territory level in a number of ways. For example, most States and Territories now have integrated departments dealing with employment, vocational education and training. A number of States and Territories have one Minister responsible for the entire employment, education and training portfolio as does the Commonwealth.

The States and Territories have also agreed to mutual recognition of vocational education and training which ensures a 'national' approach to curriculum development, assessment and reporting methods and which ensures clear parallels between courses offered by different institutions in different locations.

2.3 *The impact of developments overseas*

Historical and recent developments in vocational education and training, in several Western European countries, the United States, Japan and ASEAN countries such as Singapore, were considered crucial to informing Australian practices. In 1990, a tripartite mission (Govern-

ment, business and trade unions) was sent to examine and report back to Commonwealth, State and Territory Ministers. The main purpose of this mission was to bring to Australia those experiences of other countries which would be useful in helping to reshape vocational education and training and to assist with local readjustment.

On completion of the mission, a detailed paper: *Report of the Overseas Mission to Study Developments in Vocational Education and Training* (1990) was published.

The Report states in part:

> The process of structural adjustment is currently high on the agenda of most OECD countries and a number of other countries are experiencing similar problems to Australia's and see vocational education and training as an important component of necessary strategies. For example:
>
> - The Federal Labour Department in the USA is moving to modernise and expand its apprenticeship training arrangements and is considering ways in which the differences between the States can be rationalised;
> - A major tripartite review of the need for structural adjustment has recently been completed in Canada and a strategy developed whereby the Federal and Provincial Governments will work towards a better co-ordinated approach to vocational education and training;
> - In the UK, a National Council for Vocational Qualifications (NCVQ) has been established as a means of addressing regional and industry differences with the role of industry lead bodies being particularly relevant. A comprehensive study of training in Britain has been recently completed, a National Trsining Task Force is in operation and a four year program to set up a network of Training and Enterprise Councils (TECs) is underway;
> - In the EC (EEC), there is a requirement that consistent standards be developed by the early 1990s for the accreditation and recognition of vocational qualifications; and
> - In (West) Germany a substantial rationalisation of occupational classifications has been undertaken by the Federal Institute for Vocational Training (BIBB).

In developing new models, the mission recommended that:

> the integrated development of Australian education and training systems, to extend beyond entry level training and provide a basis for life-long learning by the workforce, be recognised by Ministers and the Australian Education Council as a priority area for collaboration between Education and Labour Ministers in the development of a comprehensive national vocational education and training strategy.

Among the findings of the Report were:

- That most countries were adapting to the influences of:
  - increasing globalisation of national economies with increased concern about comparative advantage against trading competitors;
  - the impact of changed demography (especially in OECD countries) with smaller cohorts entering the labour market and ageing populations, leading to concerns with skill shortages, and
  - the impact of changing technologies on work organisation and skills.
- That in the Management of vocational education and training there was clear separation of policy and delivery mechanisms and a marked trend towards local (as distinct from central) decision-making and management.
- That most countries were looking at:
  - breaking down the traditional separation of education between schools, colleges and on the job training, and
  - reform of school curriculum, standards and testing to increase the extent to which education is competency based and relevant to the on the job and life applications.
- That the further education of those not going on to higher education has received much greater attention through the integration of education and training (such as in Germany, Sweden and Singapore where a national commitment by all levels of Government, employers and unions has virtually ensured participation of young people to the age of 19). Australia's lack of such 'across the board' support for integration was seen as hindering national development.
- With the notable exceptions of (then West) Germany and Sweden (where it is not an issue because it has already been achieved) most countries are upgrading the status of vocational education and attempting to link vocational and general education more closely.

In consideration of these findings and the models examined, the Mission:

- 'Supported the recommendations of the Australian Education Council Working Party on School/TAFE links which advocated further investigation of alternative structural arrangements for TAFE and secondary schools in the 11th and 12th years of education';
- 'Noted the innovative approaches now being introduced into the upper secondary school curriculum in Australian schools in order to enrich their vocational content and provide more preparation for work and **supports** further development of vocational training for upper secondary students';
- '**Recommended** that the integrated development of Australian education and training systems, extend beyond entry level training and provide a basis for life-long learning by the workforce, be recognised by Ministers and the Australian Education Council as a priority area for collaboration between Education and Labour Ministers in the development of a comprehensive national vocational education and training strategy'.

The first steps in the implementation of these processes are the strategies contained in the Finn Report (see 2.6) and the recent proposals from the Australian Vice-Chancellor's Committee responding to the Report which propose the introduction of joint foundation courses in higher

education and TAFE. Under this proposal, consideration will be given to introducing a two-year module, to be designed in collaboration between TAFE and universities, and offered through either TAFE or higher education institutions.

The first year would consist of a common module offering foundation studies in language and literacy competence, numerical and mathematical skills and competence, other humanities and natural and social science studies.

After the completion of one or two years, students could opt to take either a higher education oriented year, which would provide a credit transfer to a higher education award course, or take a more para-professionally oriented course which would lead to a TAFE award.

2.4 *Strategies to form a coherent pattern of education, training, work experience and flexible entry to the workforce (with particular reference to the problems facing the 15-19 year age group)*

Initial strategies for improvement ran into problems because of serious and unforeseen discontinuities (i.e there were many missing pieces in the new jigsaw puzzle).

For example, the whole 'educational' technology and 'deliverability' of competency-based training and assessment took much longer to design and develop than anticipated. However the most difficult problem was the definition of general levels of skills standards able to be used across specialist industries, applying these standards to individual industries and their trades and then getting the agreement of employer, unions, government and wage fixing tribunals.

It became clear two years into the process that the achievement of the theoretically possible improvements depended on the structural design and meshing together of a coherent pattern of education, training, work experience and flexible entry to the workforce. In particular, a great deal of rethinking was required about the key strategic interface group the 15-19 year old age group.

2.5 *Australia's National Training Board*

In order to achieve an effective and coherent vocational education and training system a National Training Board (NTB) was established. The NTB is systematically defining those competency standards which have national applicability and which are transferable between jobs or occupations. The National Training Board describes them as core standards which provide the basis for both broad-skilling and up-skilling of the workforce. Core standards were seen as essential in the efficiency and effectiveness of the design and delivery of training programmes.

The NTB has identified competencies which are common to a range of occupations, industries and enterprises. National core competency standards will comprise those required in an occupation generally, together with those specific competencies required by a particular industry sector or enterprise.

It is expected that these mechanisms and processes being developed for vocational education, employment and training will promote life-long learning, create career pathways and provide the basis for articulation and credit transfer. In his concluding address setting directions for the National Board of Employment, Education and Training, Dr G Ramsey then Chair of the Board stated:

> This approach to vocational education and training is about allowing people to enter education and training at a variety of levels from a variety of pathways at different stages of their working lives and to be able to re-enter as often as their needs require.

2.6 *Young people's participation in post-compulsory education and training: Report of the Australian Education Council Review Committee (Finn Report)*

The Finn Report of July 1991 is the most comprehensive report on the education and training needs of Australia in the last two decades. The Review Committee was chaired by Mr Brian Finn, General Manager, IBM Australia and New Zealand. Its Deputy Chair was the Vice President of the Australian Council of Trade Unions, Mr Laurie Carmichael. Findings and recommendations are detailed in Section 3.2.2.

The Report presents a range of recommendations which will result in substantial shifts in the number and diversity of young people participating in education and training. It is widely regarded as the most significant report on Australian Education of the decade.

2.7 *National Consistency*

The work of the Review Committee, the work of the National Training Board and complementing activities in the States and Territories are converging to create for the first time in Australia's history:

- national coherence
- national consistency
- national benchmarks
- national reporting
- national targets to raise overall levels of education for the whole population from Year 10 now to Year 12 in 1995 and to a post-year 12 academic qualification in 2001.

Some key elements include:

- national collaboration in school curriculum and assessment from years 1-12 in English, Mathematics, Science, Technology and Social Education;
- national core curricula projects in TAFE for major trade training courses;
- the National Training Board's approach to core standards for competency levels and their progressing upgrading, and
- competency based training and assessment in the workplace and progressive linking to new pay awards for all vocations.

2.8 Articulation

One of the critical factors which has impeded structural adjustment potential across and within industries, and access to further education in rural areas, is the existence of institutionalised barriers between different sectors of education. It is common in many countries for school-based education, vocational education and training and higher education to be seen as discrete or discontinuous elements with no obvious or logical connection between them. When continuing or further education is added, the problem appears to be compounded still further.

Put simply, except for those 25% of students who have followed classic institutional pathways to University, the great majority of the population, and particularly those without ready access because of remoteness or because they are beyond the school leaving age, further education progress is impeded by a bewildering array of barriers.

Frequently, differences between the education sectors are the result of historical developments with, for example, the trade or technically qualified, educated in vocational institutions, being seen as quite separate from the professionals educated in universities. In reality the nature of the education actually offered reveals quite marked parallels. For example, there is substantial overlap between a Diploma in Engineering offered by a TAFE College and a Bachelor of Engineering offered by a University.

Increasingly, governments and institutions are turning to ways which can minimise or eliminate apparent and real differences between the sectors. In some cases differences exist only at the perceptual level. Whether perceived or real they obstruct progress towards wider educational and labour market readjustment and stand in the way of economic progress by impeding the free movement of workers and the upgrading of skills for those in rural areas who lack easy access. In some quarters there has been increasing pressure for the acquisition of formal academic qualifications and certificates in seemingly discrete and disparate disciplines, yet opportunities for the growth and development of skills, instead of being cumulative are fragmented and full of barriers.

The major impetus for changing existing arrangements between institutions in different sectors and within the same sector, did not come from educators - a minority of whom had long been

vocal on the issue but without significant success. Instead it came from a decision in August 1988 to establish a new Australian wages system. The major elements of that decision were directed to the revision of job classifications, multi-skilling and the provision of new career paths. The decision provided a **structural efficiency** principle as a key element in the new system of wage fixing. To put it simply - instead of industrial bargaining power being the main determinant of wages - payment for level of skill became the driving force.

The structural efficiency principle then established has become a catalyst for award restructuring in a range of Australian industries. It has galvanised employers, employees, educators and trainers through a common incentive. While there are differences from industry to industry, common features of the principle are:

- 'broad banded' job classifications encompassing a wide range of tasks, functions and/or skills;
- opportunities for progression from the lowest skill level through to the highest skill level within an industry with accompanying salary increases, and
- structured programs of skill acquisition, both on and off-the-job, providing the opportunity for all workers to develop the skills necessary for advancement along new career paths.

Pressures from decisions based on the structural efficiency principle, together with the impact of award restructuring more generally, have provided the basis for re-examining existing structural links in education and have stimulated attempts to bring about a rationalisation of educational resources by eliminating discontinuities and barriers.

2.8.1 Articulation: Vocational Education and Training and Higher Education

Decisions on the structural efficiency principle paralleled reports published by the National Board of Employment, Education and Training (NBEET), *Higher Education: A Policy Statement* and *TAFE 1989: Commonwealth Programmes and Priorities*. In these, the Government expressed concern about the ad hoc and inefficient nature of existing credit transfer arrangements within and between the higher education and TAFE sectors and indicated its commitment to improving the situation.

In February 1989 the Commonwealth Department of Employment, Education and Training (DEET) and the National Board of Employment, Education and Training (NBEET) agreed to fund a joint study relating to credit transfer practices in the higher education and TAFE sectors. Results of the study would assist in developing a strategy to address the credit transfer problem.

Results of the study were published by the National Board of Employment, Education and Training in August 1989 as *Credit Transfer: A Discussion Paper* which was followed several months later by a seminar attended by key employee and employer bodies, representatives of Government, educational institutions, learned societies and the wider community.

Credit Transfer: A Discussion Paper concluded that Government should reaffirm a policy of supporting fair and equitable credit transfer arrangements by higher education institutions and by all TAFE systems. These should provide for students wishing to transfer within either TAFE or higher education or from one sector to the other.

Thus articulation, or credit transfer arrangements should provide for lateral movement of students within one sector (i.e. from one TAFE college to another or from one university to another) with minimal disruption and optimum efficiency. They should also provide the means to enable students to move from one sector to the other (i.e. from TAFE to higher education and from higher education to TAFE). Moreover, arrangements should ensure that students are provided with the optimum amount of 'advanced standing' ("credit") towards the award of a qualification from that sector or institution into which a transfer is made.

Australia now has many examples of credit transfer arrangements concluded between TAFE systems and higher education institutions which provide a sound basis for longer term optimism. The Australian Capital Territory (ACT) provides such an example. Vocational education and training in the ACT is conducted under the auspices of the ACT Institute of TAFE, a single institution with numerous campuses which delivers some 20 million hours of annual student class contact. In the late 1980s, the ACT Institute of TAFE concluded a formal written agreement with the then Canberra College of Advanced Education (now the University of Canberra) which provided clear, unambiguous statements about the entry and advanced standing that TAFE students would gain in the higher education programmes it offered.

2.8.2 Articulation: Vocational Education and Training in Schools

The preceding section discussed at some length articulation arrangements between vocational education and training and higher education. Arrangements of this type have received most attention in terms of government policies and educational planning. To an extent this focus has been at the expense of arrangements between the vocational education and training and schools sectors which, in the Australian context, have only recently begun to develop stronger links.

Australian school education is predominantly comprehensive in nature with the majority (75%) of students attending Government primary and secondary schools. Australian schools have never been characterised by institutionalised differences of the type once seen in Britain where secondary education was formerly divided into grammar, comprehensive and secondary modern schools with a smaller number of technical high schools.

Participation in schools in Australia is generally compulsory to Year 10. The retention rate from Years 8 to 10 is 98%. Approximately 80% stay on for year 11 and some 64% remain at school to Year 12. (ABS Catalogue No. 4221.0 *1990 Schools Australia.*)

Participation rates are highest in urban areas with lower participation in rural areas mostly due to access problems.

While Britain has moved away from secondary education with a more clearly defined 'focus',

countries such as Holland and (West) Germany maintain a streamed secondary sector which has 'general' high schools, and technical high schools which prepare students for technical and para-professional careers while gymnasia or grammar schools prepare students for higher education entrance.

Nonetheless, in recent years, as secondary retention rates in Britain have grown, particularly in the senior secondary sector (i.e. 16 to 18 year olds), there has been a clear realisation that school curricula designed largely for academically oriented students were not suited to the needs or aspirations of the majority of students remaining in full-time secondary education. This realisation gave rise to innovative and successful educational strategies such as the Technical and Vocational Education Initiative (TVEI) which saw the introduction of practical based and vocationally oriented curricula into senior secondary education with consequent benefits for the schools, students and the labour market.

Currently in Australia, retention rates are increasing in senior secondary education and most curricula have been designed for academically oriented students. It is a social as well as an economic imperative that this is rectified speedily.

There are a number of ways of addressing this issue. They include the introduction of curricula similar to Britain's Technical and Vocational Education Initiative projects, increasing access to vocational education and training institutions and articulating vocational education and training programs into senior secondary education. Mechanisms for this include joint accreditation and mutual recognition by school and vocational education and training authorities.

Given that vocational education and training institutions already have extensive curricula, assessment and accreditation methodology, the latter option seems to present a cost-effective and expedient way of dealing with a large number of young people whose career orientations are essentially practical or vocational.

Within Australia the experience at the state level suggests that while there is initial resistance from the authorities responsible for school curricula and assessment to the introduction of vocational education and training programs, these can be quite successfully integrated through joint accreditation and by providing students with optimum educational outcomes and a greater degree of flexibility in career choice. This has been the experience in the Northern Territory.

An example of recent developments can be seen in the treatment of metal trades training modules arising from the industrial salary award restructuring process noted earlier. As part of this process key employer and employee bodies and Australia's National Training Board have supported the development of an integrated career structure for workers in the metals and engineering industries. This broadly means that salary levels are formally tied to the recognition of skill acquisition which reaches from the unskilled manual labourer to the highly skilled professional engineer.

In order to facilitate this development, a new national metals 'curriculum' was developed which

was suitable for delivery in a range of locations including the workplace, vocational education and training institutions and schools. The curriculum comprises increasingly complex modules, each of which is tied to a particular group of skills or competencies and which are subsequently reflected in the career and salary structure of the industry.

It has proved quite straightforward to introduce what are often termed the 'metals modules' into Northern Territory secondary schools, providing students with jointly accredited subjects with national recognition. Most importantly, the first steps on a career ladder will have been completed prior to finishing compulsory education.

2.9 Educational Partnerships

As a consequence of award restructuring, industry is expected to take a greater responsibility for training its employees. Industrial organisations including Industry Training Advisory Boards, Industry Training Committees as well as Industry Associations (private providers) have sought recognition as Registered Industry Training Agents under the provisions of the Training Guarantee legislation. At the enterprise level, industry is already a major provider of training. Industry has also begun to establish joint ventures with public providers to increase the opportunities for skills development.

As a result, the number of private industry-based training providers has grown significantly. Today they are a major component of the vocational education and training infrastructure and a number will compete with and complement public sector training providers. It is expected that active competition for training funds will encourage both private and public providers to be effective and innovative in the delivery of services.

Wholesale industry restructuring as part of award restructuring is providing vertical and horizontal pathways for the workforce and has increased the need for articulation and credit transfer arrangements between deliverers of traditional technical education and those primarily responsible for higher education. As indicated in earlier sections, until recently there had been little or no articulation or credit transfer in Australia between the two education sectors.

Within industries, restructuring and the need for greater competitiveness and productivity are having a major impact on Australia's training system. Private and public training systems now need:

- more assistance in the assessment, redesign and implementation of the skills formation systems;
- providers of teaching expertise to complement industry expertise which together will complement TAFE staff in institutions, and
- provision of appropriately designed and structured learning materials.

In line with the general thrust of the restructuring process, training must facilitate multi-skilling,

multiple entry and exit points and re-training. Demand for education and training will increase across all industries, and in particular from workers in semi-skilled and post-trade areas. A reorganisation of work and new technology will change the skills 'mix' required for workers.

A Northern Territory example of recent developments in approaches to industrial training can be seen at Nabalco. Nabalco, a major international producer of bauxite, is situated in a remote environment some 500 kilometres from the nearest town of any size. All skilled staff replacements have to be flown in from elsewhere. Here cross-trade training was established for tradespeople, half of whom were electricians and the other half instrument fitters.

Those who were electricians trained as instrument fitters and those who were instrument fitters trained as electricians. This resulted in dually qualified workers, providing the company with a substantially richer human resource base and greater workplace flexibility, which is essential in a remote location with staff recruitment delays. It also provided the employees with more marketable job skills, opened new career pathways and improved workplace relationships between the employer and employees.

The competency based system employed at Nabalco provided all on-the-job training which was accredited by the Northern Territory training authority. The Institute of TAFE in the Northern Territory University (the largest local provider of vocational education and training) in cooperation with the TAFE authority of Queensland (a neighbouring State), designed the curriculum content and delivered the 'off-the-job' training components.

The outcomes of this process proved to be not only an exercise in flexible delivery but provided clear evidence of the effectiveness of industry-government partnerships. Cross-trade training is now established as one method whereby the worker skills 'mix' can be updated and improved.

Higher levels of vocational and further education and training is a critical factor in the success of most industries. Australian industry has tended to have a lesser commitment to training than many other countries. Now a structure is in place to influence industry management to invest in training although industry also needs to be convinced that there is a capacity on the part of existing public training providers to work with individual industries to meet their needs.

2.10 Modular Curriculum - implications for closing the urban-rural gap

In an increasing number of countries including Australia there is widespread acceptance that education and training are non-lifelong experiences which increasingly require changes to entry and exit points and to modes of teaching and learning. The underlying principle here is one of educational and consequently social and economic empowerment for individuals and groups who are not only encouraged to remain in or return to education and training, but who can see the real benefits arising from the acquisition of improved skills, increased knowledge and better career and employment prospects.

The principle of lifelong education and training should be seen in parallel with national and international developments in the recognition of prior learning.

Nowhere are these changes more clearly defined than in school and technical and vocational education curricula, which are moving towards a modular or unitary approach.

In essence, modular curriculum design can enable a large and complex curriculum to be rebuilt as a system of separate but interrelated units commencing at the simplest and leading by progression to the most complex or to a far wider understanding of the discipline in question.

Students begin with introductory material in one discipline or subject area such as the 'metals' modules mentioned earlier. They proceed through units of either increasingly difficulty or greater breadth up to the point where they either complete a formally certified qualification, or they reach a level which meets immediate or longer term career needs or which provides the basis for further technical, paraprofessional or professional training.

There are a number of clear advantages to modular curriculum design. These include the ability to offer units in the workplace, in schools, through technical and vocational education institutions, in the home or in tutorial or open access centres in small towns. As indicated earlier, in this way students can gain wider access to recognised programs of study, often in a flexible manner which is far less tied to the geographic location of expensive, purpose-built education facilities. This may reduce reliance on expensive technical and vocational education colleges in rural and remote areas but still provide certified learning and credentials.

Further, modular approaches to curriculum and instruction appear to lend themselves far more readily to self-paced learning in which it is the learner who sets the rate of progress and the range of material to be covered rather than an institution or instructor. With well designed self-paced learning strategies, teachers and students are able to use a variety of instructional and learning methods which include technologically advanced computer aided packages, audiovisual materials, correspondence lessons, books, checklists, practical experiments and on-the-job experience with 'real time' applications.

Modular approaches also lend themselves to competency based teaching and assessment methods in which the time spent on the task assumes far less importance than attainment of the levels of competency assigned to a particular module or unit. When combined with self-paced learning, competency based teaching and assessment can lead to optimum educational outcomes where students who have rapid acquisition of knowledge or techniques or who have prior related experience pass through units more quickly with no consequent disadvantage to those taking longer to reach the same levels of competency.

Clearly modular approaches have potential to reduce the 'quality gap' between urban and rural education.

At present, shortcomings in Australia's internal communications network mean that modular and self-paced learning cannot be delivered at an optimal level. This is not so much a fault of

the systems themselves but more so of the inherent costs in delivering educational and other services to a nation with a small, widely dispersed population.

This dilemma might be illustrated by reference to the Northern Territory, which is 1,600 kilometres from North to South and 1,000 kilometres from West to East yet has a population of only 160,000 with approximately half residing in one city - the greater Darwin area. Similar situations, albeit not as extreme, exist in other Australian states where the majority of people live in coastal capital cities with vast distances between remote and isolated centres. In South East Asia similar problems occur where island populations are separated by sea or in remote mountain areas.

The need to service a dispersed population places great burdens on existing approaches and on the critical need for innovation in telecommunications and satellite transmission to facilitate the use of alternative delivery methods for education and training. A national working party, led by the Northern Territory, has been established by the Australian Education Council to investigate and establish a national communications framework for education delivery.

The Australian experience of delivering education and training services using technology suggests that the dramatic fall in infrastructure and equipment costs is likely to continue, leading to far greater access and significantly improved economies of scale even for small communities.

It also suggests that methods and approaches developed here can be readily applied, during the next decade, to those countries who are currently upgrading their telecommunication capacities. They are in a good position to use existing and planned technology now that high development and trialing costs are no longer included in the prices charged. Further, the potential exists for several countries to be inter-linked in the near future in a broadcast 'footprint' spanning many regions.

What is also increasingly apparent is the potential for economies of scale using innovative technology now available. For example, Australia's damaging national airline dispute in 1989, which lasted for six months, provided a major stimulus for the use of interactive tele and video-conferencing facilities which provide direct linkages between individuals and groups often separated by thousands of kilometres. Until recently, the cost of video-conferencing has been $A900.00 per hour. This was soon to be reduced by approximately 50%, bringing this form of communication well within the budget of a far larger group of potential users. At the time of writing, one competitor (using compressed video) has reduced their charge to $200 per hour. Each day in Australia, many meetings of Government and private sector officers from Commonwealth, States and Territories take place. The cost of any single meeting of one officer each from each state for airfares and accommodation is $7500. A four hour interactive video conference at the general reduced rate cost $2000. The compressed video conference charge is $1000. Clearly at these prices there is potential for more interaction at a cheaper price.

Some other satellite user costs have dropped by as much as 90% in the past five years.

While there are establishment costs in using these facilities the conclusion is inescapable that a threshold is being reached where the costs of using technology have reduced to the point where they offer a genuine alternative. In opening up opportunities for new and innovative technological approaches to education and training, the savings can be achieved by not having to rely on outmoded, inefficient and unreliable methods. The secret to their use is cost substitution.

In these times of worldwide shortage of educational funds, solutions which require substantial new investment are difficult to implement. If end users agree to reduce costs elsewhere in favour of using alternative approaches then progress will be made this decade.

2.11 Open Access Learning Centres

The Australian model for Open Access Learning Centres has evolved from several distinct areas:

- Primary Schools of the Air (using mailed correspondence lessons augmented by radio links);
- Secondary Correspondence School (using mailed correspondence, telephones and facsimile), and
- 'Conventional' TAFE and Higher Education institutions which have catered for external students, that is students who are unable, for a variety of reasons, to participate in regular or conventional classes.

An open access learning centre provides support and teaching/learning materials for all students who are unable to make use of regular classes. It uses a variety of media for this including print, video and audio tapes, broadcast and computer software and interaction.

Examples include the Alice Springs and Katherine Schools of the Air, and the participants in the Ministry Telematics Network Support Project (Victoria).

In Australia, Federal Government funding has been allocated for the investigation and development of an initial framework supporting a national open learning network. To this end, a working party of the Australian Education Council, has formulated a National Education Communications Framework (NECF). The working party has proposed the establishment of a National Collaborative Educational Communications Authority (NCECA) which would develop and implement the NECF and would pursue the goals of improving the standard of education and training through improved access and equity.

Suggested strategies for the NCECA as manager of a National Open Learning Network are discussed in the next section 3.

3. *The development of a national communications framework for the delivery of formal and non-formal education and vocational training services and its impact on rural areas*

DEFINITIONS

FRAMEWORK:
A framework is a set of statements that guide and facilitate action by describing:

- a set of principles for operations
- parameters that are encompassed
- guidelines for strategy and planning.

NETWORK:
A network is a structural arrangements for specific communications (eg: a physical network as in the PSTN, TV network, AARNet, or national railway system), or a human network such as a User Group or Common Interest Group.

COMMUNICATIONS TECHNOLOGIES:
Communications technologies are those technologies involved in the transfer of information or messages between a transmitter and a receiver.

3.1 Factors influencing current developments

During the 1980s a number of reports to Education Ministers and to the Federal Government called for concerted action by the education community on a national basis to ensure that the developing telecommunications technologies were being used to improve the teaching-learning process. These reports were not taken up because of the initial very large capital costs for purchase and installation and high running costs. At the same time, traditional class teaching and lecture methods were cheaper and more effective at least for those in normal classes. At that time, delivery of education using the full range of communications technology via satellite was costed as being similar to the costs of providing a 'personal professor' for each student!

In April 1989 following the disappointing take-up of satellite applications for education during the three years after the launching of AUSSAT, the Australian Education Council (AEC) established a working party to report on the use of satellite communications in distance education in schools, colleges (K-12) and TAFE. The task was subsequently extended to encompass all the other telecommunications technologies which may be used in education delivery. This working party was able to demonstrate in 1990 that, with available technology

and applying outcomes of pilot projects, costs were sufficiently low to make new delivery mechanism economically viable for urban and rural Australia.

3.1.1 The current National Working Party

In April 1991 Ministers agreed to establish a National Working Party chaired by Mr G.J. Spring, Secretary of the Northern Territory Department of Education, with representatives drawn from schools, TAFE, Higher Education and from the industry and business sectors to develop a National Education Communications Framework (NECF).

This NECF working party is doing more than just identifying opportunities for using communication technology to deliver education and training in schools, TAFE, Higher education and within industry. Its charter is to undertake the necessary investigations into appropriate standards and protocols necessary to implement a National Framework.

The Framework will also include the development of working relationships with industry in order to continually monitor development and to make recommendations on practical implementation. These relationships are particularly important in the context of the changes in profiles of delivery across the education sectors which may result from the implementation of the report on *Young People's Participation in Post-Compulsory Education and Training* (Finn Report).

The NECF will include reference to the following specific education and training functions:

- encouragement of the utilisation of innovative alternative means of learning delivery;
- promotion of national research and development of educational programs by facilitating electronic communication between curriculum developers;
- strengthening of working relationships with existing electronic communications networks such as AARNet (the existing higher education E-mail network);
- promotion of the professional development and inservice training of teachers by facilitating the sharing of expertise nationally, and
- facilitating national access to education and training where expertise is not universally available throughout Australia.

3.1.2 Positive forces contribution to the NECF

The positive forces contributions to the NECF are:

- the emerging client needs spelt out in Section 2;
- access to service and to better quality of service particularly for those currently disadvantaged such as those in rural areas;
- increasing mobility of some parts of the workforce;

- the need for a consistent national competency structure and also to present a stable unified structure to overseas companies and families planning to establish in Australia;
- the impact of restructuring in industry;
- training and retraining of the existing workforce for new technologies;
- flexibility of the workforce through multiskilling and retraining;
- declining State and Territory budgets for educational and training delivery;
- reduced research and development funding;
- the potential for improvement of service delivery through:
  - minimisation of duplicated effort,
  - national collaboration in the redesign of curriculum,
  - modular approaches,
  - productive use of communications technology,
  - alternative delivery modes such as Open Access Learning Centres.

3.1.3 Negative Forces Which the NECF May Overcome

The Working Party was presented with a range of 'blockages' which needed to be cleared, including:

- a confusing array of licensing arrangements at Federal and State level for the use of different media (i.e. line, satellite, television, data transfer, AM, FM, HF and UHF radio, etc);
- monopolies in key service areas such as telecommunications (soon to be broken with the establishment of a second competitive carrier in Australia);
- the assumption that the best way for teaching and learning to occur is by having teacher or lecturers and their pupils or students in an enclosed space for regular blocks of time;
- lack of national collaboration and State and Territory differences such as having 8 school educational systems and 8 TAFE systems for 17.5 million people;
- cross-sectoral rigidities in the education and training sector, and
- cost factors as explained above.

Australian teaching services have traditionally been slow to fully adapt to changes in technology, methodology or social climate. Accelerating such changes is difficult without redeployment of resources into the training and in-service education area and into a supporting infrastructure. Concerted programs to change the expectations behaviour and techniques of teachers to use more efficient new technologies must be implemented.

3.1.4 Distance Education

For its tasks, the Working Party uses the term 'distance education' very broadly to include correspondence education, external studies and a range of open learning approaches. This reflects the general structural and policy directions which school, TAFE and Higher Education

systems across Australia were taking because the new context is now far broader than services to remote areas. It includes all individual learners whether they be studying at home, in hospital or in the workplace.

This wider focus reflects the essential dilemma the Working Party was set up resolve. Individual schools, colleges, universities and education systems, as well as reaching their traditional specific client groups in rural and sparsely settled areas have also been expanding their use of telecommunications for the delivery of mainstream education services in the cities and towns. Yet each system had been unable to sustain the necessary level of technical and operational planning and development in all areas to maximise cost savings. Nor could systems choose, let alone effectively employ, all the most appropriate technologies available. Apart from trial or pilot projects and a number of ongoing but still 'one-off' applications, the full potential offered by the technology to deliver a better service to most potential clients has not been realised.

3.1.5 Reaching a "Threshold" for Taking Action

The availability of the technology and the burgeoning needs caused by the new developments mean that there is now a critical imperative for focused national collaboration by education systems in the use of telecommunications technologies for education delivery. The business sector is increasingly placing a high priority on the value of educational communications technology within enterprises. The business sector is a driving force in the pursuit of a national framework, particularly where partnerships occur in the delivery of training in the the workplace.

Technologies such as telephone, radio, television and computers are becoming integral to daily education programs in each school, TAFE and Higher Education system but, as indicated above, still at a relatively low level and still partly experimental.

The development of a national framework is also seen as integral to support initiatives in curriculum collaboration and in efforts at achieving more efficient and cost effective course delivery, economics of scale and much improved utilisation of resources.

The current trend is towards more flexible delivery methods. Taking into consideration recognition of prior client learning, broader entry into programs at multiple points and the need to offer 'on-demand' learning, using point-to-point communications has provided the impetus lacking in the 1980s.

While the development of a NECF is becoming a pressing urgency for Australia it is pertinent to draw comparisons with Australia's history of railway construction where interstate jealousies produced different railway gauges for each State requiring transhipment of goods and passengers at State borders. The cost penalties of each State 'going its own way' with communications technology in education are likely to be as far-reaching and as long lasting. Broadly, the NECF will give guidelines towards the goals of improving excellence in education

and training, providing improved access and equity and achieving these goals within acceptable budgets.

3.1.6 Managing a 'Mosaic' of Communications

A NECF is likely to give rise to a 'mosaic' of communications across Australia at all levels and in all sectors, and will require management and coordination. For this reason, a national coordinating body is being proposed, tentatively called the National Collaborative Educational Communications Authority (NCECA).

Access on a contractual basis to expertise existing in agencies in all States will also be required. There is unlikely to be a single source of expertise for national distribution of education and training. States and institutions within States have agreed to work collaboratively to improve the quality and access to education and training, but will nevertheless retain responsibility for providing curriculum and courses within their States.

It is expected that educational institutions will cooperate with public and private enterprises which provide access to expertise concentrated in a small number of locations and then disseminate it using the NECF throughout Australia.

The proposed NCECA is therefore likely to be a central clearing-house which identifies where expertise is to be found for all aspects of technological delivery around the nation. The identification of human, material and technical resources will all come within its scope, as well as coordination of the application of these in a collaborative manner at the national level.

3.1.7 Why Now When Earlier Attempts Have Failed?

It is an appropriate time for educators to consider establishing a NECF. Many countries in the Asian region are upgrading their telecommunications capacity, for example Indonesia. During the eighties, educators were encouraged to use communications such as satellite technology. However, very few irreversible decisions have been made regarding communications technology. Some countries may have made significant investments (as some Australian States have) in audiographic and E-mail systems. However, in general, educational institutions are well poised to take advantage of the technology and products increasingly becoming available for 'on demand' study at work, at home or in training institutions and in associated rural locations.

The forces in many countries moving TAFE delivery away from large class groups progressing through colleges in a lock-step mode towards highly individualised open learning delivery systems might mean that the greatest value of a NECF for TAFE towards the end of this decade will be collecting and downloading training materials to commercial enterprise sites and to networks of open learning centres based in schools, colleges and associated centres in rural areas.

In most countries, industry requirements are directing TAFE activity more strongly than in the past. TAFE institutions will continue to provide a range of courses to adults who are not in an industrial setting. These will be people who are actively seeking to rejoin the workforce through skilling themselves, or acquiring basic skills which they were unable to obtain during their schooling. Open learning techniques which use communication technology will be equally relevant to these groups as they are already in parts of Australia.

A key need in rural areas is either initial study or return-to-study courses for rural women who live in isolated locations.

The financial hardship for rural people who are forced to pursue higher education away from their homes, will in the future encourage higher education institutions to use communications technology to make learning more accessible and less expensive for rural students. It should reduce some of the professional isolation which, along with geographic isolation, is a disincentive to living in rural communities.

An NECF will provide a vehicle to assist learning to become more flexible and client centred. Providing that we are successful in ensuring compatibility of communication protocols and standards between educational systems and providers, people who are now disadvantaged by geographic isolation should have a much wider choice of courses without the need to leave their homes for extended periods of time. It should also provide greater access for those such as the physically handicapped, the homebound and shift and itinerant workers who, for a variety of reasons, cannot travel to a school or college.

Responsibility for training and developing skills in the Australian workforce has previously been given to TAFE and industry generally. The implementation of the Finn Report could also mean that schools will play a significant role after Year 10 (Age 15+).

Training Australia's teachers is largely the responsibility of the higher education sector and the education systems themselves for on-the-job or in-service training. Higher education provides preservice courses while the systems largely provide continuing professional development. Increasingly, both higher education and education systems are looking to use communication technology to improve access and to provide further professional development to a greater number of teachers. Both can take advantage of a NECF to deliver courses.

In summary, accompanying the economic and social imperatives outlined earlier there have been improvements in communications technology and decreases in costs. For some time, educators in all states have undertaken trials with communication technology, particularly for specific regional areas. Developments in mass communication systems such as satellite technology, video compression techniques and improved voice and data encoding and delivery make transmission of voice, data and video images a national possibility for educators.

3.2 Consideration of the key issues as they affect the urban/rural quality gap

The development of a national communications framework for Australia complements the implementation of national education policies in three major areas - national collaboration in curriculum and assessment, participation of youth in post compulsory education and training, and competency based training.

The following section looks at these three areas in detail.

3.2.1 National collaboration in Curriculum and Assessment

Demographic and economic factors play their part in national collaboration. Australia's total population is relatively low. The size of individual States is such that it is both difficult and inefficient to continue to maintain a major and comprehensive curriculum development capacity at the State level. We share this problem with countries in the region who have large provincially based operations or decentralised systems of colleges.

The mobility of families and the need for transportable work skills for national industries have generated a demand by industry and unions for national collaboration on curriculum and assessment issues at all levels of education and training.

The population of rural Australia is declining. There is intense market pressure for more cost efficient farming practices. This combined with bankruptcies caused by low commodity prices and high interest rates has forced the amalgamation of smaller properties into holdings. Where four farms once supported four families, these now are combined into one larger farm which supports only one family marginally. In order to contain education costs for this smaller rural student base, alternative delivery methods which provide for greater economies of scale must be fully investigated.

The rural situation described above has meant a flow-on effect in declining incomes in small rural towns in many areas of Australia. This trend is imposing additional burdens on the parents of country students seeking to pursue post Year 10 education which is not available at home or in their small rural towns. These students would normally seek education in the cities or larger provincial centres. With rural unemployment generally high and rural youth unemployment over 30% many rural youths are trapped.

There are limited education opportunities in their small home towns and for some there are severe financial difficulties in travelling away to study. Open learning strategies which take full advantage of new communications technology will help reduce the burden on these students and their parents.

Collaboration in curriculum writing so far has not taken sufficient account of the design requirements of distance education. The NECF policy statements will recommend that

curriculum designers now take account of the specialised resources and methodologies required for alternative delivery models. Curricula written with only traditional classroom based techniques in mind may be quite inadequate for adaptation to delivery through communications channels to individual learners, whether they learn through open access learning centres, in the home, or the workplace.

There is now an appreciation of the need to build on existing national developments. Further collaboration between States and Territories is seen as highly desirable building on the successful collaboration already undertaken by the National Curriculum Corporation, the National TAFE Research and Development Centre, and the National Australian Cooperative Assessment Program (ACAP). While collaborative developments in curriculum have outstripped those in the assessment area, progress is being made there also on a national level. Agreement about national curriculum is easier to reach than about national assessment.

National collaboration on the design of curriculum and assessment packages is essential to the achievement of uniform national standards of equipment and the ability to negotiate contracts for telecommunications goods and services on a national level. Educators know how to design student materials and teacher materials for classroom use, however the design principles for educational materials are very difficult if the objective is to empower individuals to access education in their own time and their own pace. Modular units are required and learning materials need to be designed around the learner rather than the teacher. Learning modules will need to integrate delivery by television one way and/or interactive television, HF radio, line data transfer by facsimile or E mail, etc.

A substantial increase in the use of television, radio, or data transfer will require national coordination and timetabling of programs with carriers as well as the allocation of priorities for delivery of curriculum designed for open access. This should be undertaken after a 'mapping' of needs identified by each sector in each state and territory.

The NECF will contain recommendations that the Directors of Curriculum (Schools Sector) and the existing TAFE bodies, the Vocational Education, Employment and Training Advisory Committee (VEETAC) and the Australian Committee on Training Curriculum (ACTRAC) liaise with a national co-ordinating body for such activities.

To facilitate this, the Federal Minister has proposed the establishment of a National Open Access Learning Agency to coordinate these developments. A body, tentatively titled the National Collaborative Educational Communications Authority (NCECA), is being recommended which will have the job of managing the NECF.

It is considered essential that advice from an NCECA be available at the outset to ensure that the most appropriate means of delivery are chosen. Initially, priority is expected to be given to areas identified in the Finn Report such as workplace literacy and problem solving and areas which have met the following criteria:

- Areas in which significant national collaboration between State educational institutions has already begun;

- Areas where there is an existing agreement between States to cooperate together for the delivery of national priority programs, and
- Areas where the effective teaching of the course requires costly development of materials.

3.2.2 Increasing Participation in and Raising Overall National Standards in Post Compulsory Education

The recommendations of the Finn Report include raising national education standards from Year 10 level for all, to new national minimum standards as follows:

- at least a level 1 traineeship or participation in Year 12 for all 18 year olds by 1995;
- at least a level 2 traineeship or progress towards a higher level vocational or academic qualification for almost all 20 year olds by 2001, and
- at least a vocational certificate (level 3) or progress towards a vocational qualifications above level 3 or a diploma or degree for at least 50% of 22 year olds by 2001.

This set of targets can be distiled into a single summary target that, by the year 2001, 95% of 19 year olds should have completed Year 12 or an initial post-school qualification or be participating in education and training.

An important side-effect of these recommendations is that there will automatically be a greater requirement for 'distance education' services from all those communities whose local education facilities do not extend beyond Year 10. A second side effect will be high demands from those who have left school. That is, all those above the age of 16 in 1991 in the whole population who have not reached those national targets and who will return to education to achieve them to be competitive in the job and promotion markets.

An equally important side effect is that the range and diversity of subject offerings will need to be increased. All states and territories will need to develop valid and publicly credible nationally comparable ways of assessing young people's attainments in terms of the National Competence Profile Levels in the areas of:

- Language and Communication
- Mathematics
- Problem Solving
- Science and Technological Understanding
- Cultural Understanding
- Personal and Interpersonal.

As a consequence, a review of curriculum development, delivery mechanisms and institutional structures focussing on open learning is inevitable.

Responsibility now for skilling the Australian workforce has been given to TAFE and industry generally. The Finn Report will also mean that schools will play a more significant role both in the compulsory years and particularly at Years 11 and 12.

Skilling Australia's teachers is largely the responsibility of the higher education sector and the education systems themselves. Higher education provides preservice courses while education sectors largely provide the ongoing professional development.

Increasingly, both the higher education sector and education systems are looking to use communication technology to improve access and to provide more ongoing professional development to greater numbers of teachers. Both can take advantage of technology to deliver courses.

3.2.3 Competency Based Training (CBT)

As indicated earlier, there has been increased cooperation between TAFE colleges to develop learning to an agreed content, quality and national standard set by the National Training Board. By drawing on the expertise of course developers Australia-wide there is the possibility of raising the quality of training and education which students receive. Increasingly, training is being evaluated on its contribution to improving organisational performance and productivity. This leads to pressure for faster responses from training institutions to meet industry needs and for increased relevance of courses to skills development. Many TAFE training programs are increasingly meeting nationally set goals for content, and are focusing on competency-based approaches.

This together with the developmental work which will flow from the Finn Report's emphasis on key competencies will strengthen the need for national coordination of curriculum and assessment. In order to deliver these competencies/outcomes a nationally coordinated approach to the use of an educational communications technology is considered an essential adjunct.

3.2.4 Client Needs for Delivery via Technology/Distance Education Techniques

The proposed NCECA will need to examine client needs from three separate viewpoints - those of potential students, of the educational service providers, and the broader view of national coordination in needs analysis and demand assessment.

Student needs will relate to their capacity to participate in terms of their physical condition, location or environment, their specific needs for particular course matter in terms of its availability nationally or locally, and their resource needs in terms of materials and technology.

Provider needs will relate to their capacity to provide courses and resources. There are many factors to be considered here, such as:

- availability of the relevant collaboratively produced curriculum;
- availability of suitably skilled staff with regard to communications-based delivery (and related teacher-training considerations);
- availability of appropriate resources/funding for equipment and connection charges as appropriate for each delivery task, and
- the need to ensure that national coordination does not seriously disadvantage providers, and permits equitable sharing of courses.

Needs analysis and demand assessment will be required on a broader front than has previously been necessary. Measurement of demand for courses for isolated students need no longer stop at one's own borders. Where an organisation is the only provider of a particular course, it may no longer matter that a student is in another State 3000 kilometres away. To date, our distance education has generally been delivered over small local networks often governed by pre-satellite transmission ranges or the availability of line connections. In addition to measuring existing demand on a national level, the proposed NCECA is expected to be involved in anticipating needs for educational telecommunications services nationally, for which it may need to monitor demographic and industrial trends.

3.2.5 Improvements in Programs and Services

There are seven significant areas in which the proposed NCECA has the potential to bring about major improvements.

(i) **Equity of access**

Many potential students in all sectors of education are presently unable to access educational opportunities in the quantity or of the quality available to mainstream urban students. Reasons for such inaccessibility are numerous, including geographic isolation and physical handicaps as well as work or domestic commitments such as shift-work, child care and so on. Telecommunications applications can help to redress these inequities and assist in meeting national educational policies on equity and access as well as participation targets).

(ii) **Quality**

In the current economic climate, stringent education budgets will require closer scrutiny of expenditure to ensure that outcomes are maximised. Telecommunication systems through economies of scale provide one way of increasing educational returns.

(iii) **Cost-effectiveness**

There is presently much duplication of effort in the development of curricula, methodology, materials and equipment for communications-based delivery of education in Australia. This situation creates the risk of mutually incompatible systems becoming entrenched within individual state systems. There is real potential that

reductions of costs and wastage can be achieved through national coordination in this area.

(iv) **Coordination strategies - learning resources**

There is a need for national strategies to integrate telecommunications into existing and future national collaborative initiatives while allowing flexibility in accommodating state and regional requirements. Advice towards such strategies would most properly come from a body such as the proposed NCECA.

(v) **National purchasing**

The NCECA should enable maximisation of the purchasing power of the Commonwealth, States and Territories, while allowing them to participate in contracts on a voluntary basis.

3.2.6 Relationships With Existing Agencies

Proposed and existing state agencies have functions which impact on the NCECA. There will be a need for an interface between the NCECA and these agencies.

The Multi-Function Polis (MFP) is a national project, sited in Adelaide, which initially is focusing on the environment, education and information/computing technology as development themes. The NCECA will need to interface with the MFP.

3.2.7 Initiatives for Change

To further strengthen the benefits which will accrue to education nationally as a result of sectors, (Universities, Schools, Colleges) responding to the range of imperatives and their implications previously elaborated, it is being proposed that a number of pilot projects be supported which will demonstrate the application of the NCECA to existing activities.

The Directors of Curriculum (Schools sector), the Vocational Education, Employment and Training Advisory Committee (VEETAC) and the Australian Committee on Training Curriculum (ACTRAC) in association with the NCECA will determine priorities for the projects. This should be undertaken after a mapping of needs identified by each sector in each State and Territory. The advice of the NCECA is essential to ensure that the most appropriate means of delivery are chosen.

It is clear that the benefits which the national curriculum initiatives hold for the schools sector can be supported by the NCECA through curriculum and teacher support projects made available nationally or between systems.

3.2.8 Quality Assurance

The NCECA will have the capacity to advise on procedures to ensure appropriateness in design of curricula and implementation strategies for courses to be delivered by telecommunications techniques. The design of courses accessed via communication and related technologies needs to be appropriate to:

- the needs and circumstances of the learner;
- the purposes and outcomes of the course;
- the available level of financial and material resources;
- the available learning technology systems and strategies, and
- the delivery institution.

In order that quality can be assured, performance indicators will need to be developed for each of the following stages in the development of the course:

- specification of learning outcomes and related experience;
- mapping of the learning environment;
- specification of learning and delivery strategies;
- specification of learning materials, tools and support systems, and
- development and production of learning materials packages.

3.2.9 Relationship With Private Sector Educational Service Providers

Private training providers now make up a significant industry. Some of these such as the IBM system are virtually closed systems, while other providers advertise publicly for clients. Because of the sensitivity of some commercial training, satellite transmissions would need to be encripted if the NCECA organisation was to cooperate closely in delivery of education and training with private educational providers.

The following possibilities exist for cooperation with private sector educational providers:

- sharing communication facilities - for example, some remote mining sites in Australia have mobile Telecom Iterra satellite communication facilities which could be used for delivering training;
- opportunities for private sponsorship;
- provision of instructional design expertise by educational institutions to private educational providers;
- private sector school systems and independent schools using a National Collaborative Educational Communications Authority in several ways such as
  - smaller private sector schools, particularly in rural locations are beginning to examine ways of cooperating together to share scarce educational resources and small classes, while at the same time preserving their autonomy,

- larger independent schools are also looking to use communications technology to link dispersed sites together to save teacher and student travel,
- some larger independent schools are becoming interested in offering International Baccalaureate courses to maintain enrolments of boarding students - there may be some opportunities eventually for delivering these courses through a NCECA or of marketing such courses.

4. Partnerships between the school and the community

4.1 The Concept of Partnerships Between the School, the College and its Community

Throughout the world there are few countries not currently engaged in devolving aspects of educational decision making to the provincial, regional and school or college levels. There are many models. For example, in some systems the aim is administrative devolution - the self managing school concept.

> The culture of education decision-making of the present and future must certainly take into account that overall resources for education are limited and most probably diminishing in real terms. This situation is also probably now the norm and yet the needs of learners are ever changing and growing. Two new rules are required as the basis for education decision-making. The first rule can be stated as 'Make choices on the basis of the relative priorities of student learning needs'. The second can be stated as 'Shift resources in accordance with the changing pattern of learning priorities and within the limits of resources available (Spinks, 1988).

In this model, while some decisions are made centrally such as broad policy, curriculum and personnel matters (i.e. those affecting the whole school population), other decisions are made regionally or locally. Most of the decisions made on devolution relate to practical management while others relate to giving regions and schools flexibility to modify their programs to meet local needs.

In all cases, devolution of regional and local decision making has been required to take place within a policy and accountability framework determined by a central authority.

In the context of a clear central framework, devolution can assist in 'reducing the quality gap between urban and rural education' if we think of devolution not primarily as an administrative device or an economic necessity but as a process which can improve education and training outcomes at the local level.

Devolution can assist in improving outcomes for rural areas if the school or college develops partnerships with its associated rural community. Essential to this concept is the notion that the

school, where it is the only school, college or educational institution in a rural area, can have its role expanded to that of a centre which provides access both for the delivery of existing services but also as a focus for all of the community's educational needs. In this way the school can become a real force in community development in rural areas.

In all countries, including Australia, there are minimum sizes for institutions. The larger the community the greater the range of services. Hence a community of a certain size gets a primary school. A community of larger size gets a high school and a primary school, a yet larger community will have several primary schools, one or two high schools and perhaps a technical college - and so on. Clearly the community which only has a primary school lacks direct local access to secondary and technical programs.

Institutions in small remote areas can be transformed if they are redesignated as community education centres providing not just primary education but access to secondary and technical education by correspondence and local tutoring.

If this access can be enhanced by one-way video or one-way radio lessons, plus interaction with remote tutors by phone or two-way radio - there is an immediate enhancement of the quality of education offered. If the students or adult learners can learn at their own pace, working through study modules and using a community education centre as the access point, then an open access centre with greater potential to support local economic development is created. By involving the community in the governance of such a community education centre, the centre may be able to expand its courses to provide skills training required for local farming and business activities. With the voluntary support of local industry and the community, the centre can become an active agent for growth and development.

In other words, a school or college can become a dynamic rather than a passive service to the community.

4.2 Case studies in delivering formal and non-formal programs in Australia

Several case studies are presented in outline below. They range from a small remote community with a population of less than 100 people to services provided to remote areas in a State with 4 million people.

4.2.1 Case Study of the Community Education Centre (CEC) Concept at Maningrida (NT)

The community of Maningrida was the first non-church settlement developed in the Arnhem Land region of the Northern Territory. It was founded in the mid-50s in an attempt to reduce the exodus of Aboriginal people from Arnhem Land to Darwin in the wake of the cultural exposure provided by World War II.

Maningrida is located 450 kilometres to the east of Darwin, on the east bank of the mouth of the Liverpool River. The Maningrida community is 400 kilometres from the nearest town of any size, Darwin. It has no road access for 7 months of the year and then only by 4 wheel drive vehicle. It has sea and air access for 12 months of the year.

For many years the community in its idyllic setting in tropical savannah bushland was a Federal Government showplace in which many projects were trialled and in which up to 30% of the population was not Aboriginal.

Today, the community is home and/or service centre to approximately 2000 people of whom the overwhelming majority is Aboriginal. The local traditional landowners have reluctantly permitted development on their land and now, although they are a small group, their language, Djebanna, is one of the two indigenous languages used in the bilingual program in the CEC.

The development of Community Education Centres in the Northern Territory of Australia is the result of careful consideration of the needs of remote communities - small mining towns, small highway settlements serving passing tourist trade and very remote communities serving traditionally oriented Aboriginal people. The concept is founded on the basic right of Aboriginal people to have equality of educational opportunity within the context of their cultural heritage in accordance with article of the World Declaration on Education for All.

A Community Education Centre provides for the effective co-ordination of all educational resources available to a community. It offers as comprehensive a range as possible of educational programs and services comprising pre-school, primary, secondary and adult education. It also has the capacity to respond positively to the educational needs, expectations and aspirations of its individual community.

Community Education Centres like Maningrida directly facilitate the growing desire of Aboriginal people, who live in a traditional setting, for self-determination and self-management.

Maningrida is one of 14 Community Education Centres in the Northern Territory. In remote areas the development of appropriate curricula with direct input from local communities has been a major educational initiative in the Northern Territory. The utilisation of centrally accredited courses is mandatory to achieve the goals of equity of participation and parity of qualifications for remote learners with learners elsewhere in Australia. But locally developed courses, also centrally accredited, allow Community Education Centres to offer the most suitable range of courses for its clients to enable them to participate fully in the social and economic development of the communities.

Maningrida CECs has collectively, 54 NT Teaching Service and Public Service staff, 11 Remote Area Teacher Education students and staff, and several other employees including those who are engaged in work contracted by the Community Education Council. In its operations the CEC encompasses a hub school and ten small outstation schools within a radius of 200 kilometres. The CEC offers early childhood, primary, secondary correspondence,

outstation, bilingual and teacher education programs. In addition, the Adult Educator services community initiated programs involving secondary-aged and adult students. Examples of these are:

- the contracting for maintenance tasks in the community by young men;
- painting of buildings;
- some building construction - concrete slab and shed erection.

Such projects are in addition to involvement in more formal course delivery.

Maningrida CEC represents the effective combination of expertise available in school and TAFE staff members and community participants.

4.2.2 Barkly TAFE Centre (NTOC), Tennant Creek

The Northern Territory Open College is a distance education institute which aims to provide access to education and training through a variety of instructional activities determined by the location and needs of the learner.

Katherine and Barkly are two Regional Centres of NTOC. They offer two diverse approaches - one in a rural township (Katherine) and one in a sparsely populated area (Tennant Creek).

The Barkly TAFE Centre at Tennant Creek provides further education services to a population of 7 000 people scattered over an arid region of 24 600 square kilometres. Within the region there are many small and medium size mining operations, the latter being highly mechanised. There are also many large pastoral properties (beef and cattle). The remaining towns fall into three groups:

- small service centres;
- highway towns serving passing tourists, service delivery traffic and heavy transport and small and remote Aboriginal communities, some living a traditional life style, others commencing commercial enterprises (mainly cattle raising);
- Tennant Creek, the only town of any size which provides central services.

The College is located in the major centre, Tennant Creek (population 3000). Field staff are located in four smaller centres within this region; teaching, monitoring and co-ordinating a number of programs, providing support for trainees of Government departments and colleges as well as providing a liaison with itinerant programs developed by the Northern Territory Open College in its provision of on-site training in remote communities.

In 1992 the Barkly Open College is relocating to new premises within Tennant Creek and expanding its services to include a creche (the only one in Tennant Creek), an enhanced program for single parent families and a program for remote Aboriginal women. A newly

purchased trucking shed, renovated by students of a trade based pre-employment training program will cater for a number of men who have travelled from remote communities to undertake full time training in trade based courses that will provide the essential skills required to service the infra-structure of their communities.

Another covered area within the new location will be similarly renovated to provide a purpose built hall that will become home to an Aboriginal women's program servicing the development of cottage industries in the region and developing strategies to teach the essential skills of numeracy and literacy.

In smaller communities, the thrust of this expansion has been to develop a network of workshops and facilities to be used for local training. Communities have identified priority areas of learning that also include the vocational and trade based courses necessary for maintenance of public standards. Experience has shown that these skills are best learned in the environment of their own community.

The success of the Northern Territory Open College in the rural areas, has been its ability to tailor programmes that directly address the specific needs of the individual client through close community consultation and the involvement of the community in the governance of the College centrally and at each College centre such as the Barkly Centre.

Remote Aboriginal communities are now developing long-term community plans that incorporate the Northern Territory Open College as their preferred training provider. At a higher level, certificate courses developed by the TAFE system in the NT are being accepted as models for a standardised National Curriculum for remote communities. Good examples are the Certificate in Community Store Work and the Advanced Certificate in Community Store Supervision. These practically based courses are conducted on-site, are competency based and are designed to train people in remote communities in the management of real stores.

In response to the call for training providers to promote on-site programs for remote communities the Northern Territory Open College has developed a number of itinerant courses including Mobile Welding, Mobile Mechanics and Mobile Bookkeeping. These courses attend to the essential needs of communities. For those communities who are predominantly traditional Aboriginal people trying to adapt to a westernised society, the itinerant courses have been an outstanding success in terms of attendance and desired community outcomes for local self management and self maintenance. Administration of other training courses in the regional centre involves a careful monitoring process aligned with an appropriate curriculum and prudent selection of the student body that allows for a better management of desired performance outcome indicators from these courses.

Another initiative by the college to liaise with a client group is a Search Conference into Employment and Training for Aboriginal people in the Barkly region. Scheduled over a week in October, this conference will target strategies by which Aboriginal people can raise their employment profile in the area. The conference will seek directions from Aboriginal leaders and will later present these to a forum of local business leaders to establish a common ground

of need and identifying mechanisms by which resident Aboriginal people can be deployed into a workforce that depends so much on an itinerant population for its stability.

4.2.3 Northern Territory Open College (NTOC), Katherine

The Katherine Regional Centre of NTOC services an area approximately 1000 kilometres wide and 400 kilometres deep. It has four permanent centres and an itinerant service extending to the northern part of Western Australia, where there is considerable consultation and co-operation.

NTOC at Katherine has developed close links with the local community and other education providers in Katherine, establishing itself as a vital element in this small community (population 7 500).

A staff member of NTOC is stationed within the offices of the Commonwealth Department of Employment, Education and Training (DEET) in Katherine to provide close and detailed communication with DEET field officers. This has enabled NTOC Katherine to respond to labour market needs as they are articulated by the Commonwealth Employment Service (CES), and to develop programs which fit local needs.

When taking the Australian Training Scheme Certificate Course in Hospitality, NTOC Katherine students are taught in local hotel and motel venues, even for off-the-job components of the course. Local industry/business welcomes the opportunity to provide NTOC student with this 'real-life' training.

Close links have been established with the local high school providing counselling and career advice to intending school leavers. Some subjects studied in Katherine High School have been given credit points for vocational programs at NTOC. A school/College program is being developed which will see appropriate high school students attending NTOC for one/two days per week to study in specific vocational areas.

4.2.4 The Tanami Network

This project is remarkable because it has been initiated from a group of communities, rather than by central authorities. Its historical background is given below.

The Tanami Network represents the latest development in an evolutionary process. Such developments have been geared to a series of community sponsored workshops and demonstrations in which ideas and technologies are explored. The basic themes of these is always the same. That is, 'how can people be brought together more effectively' and 'how can remote Aboriginal communities become involved in media and communications as an act of self-determination'.

The significance of the Tanami Network is that it provides a powerful way in which the communities can act together across a whole range of existing activities. Many of these activities at present cannot be attempted in a strong or coherent way, whether in the area of domestic or traditional life or the delivery of services.

The Tanami Network community thus builds on earlier work done on broadcasting and telephone links - in many ways it presents the pinnacle development of a process which has been going on for 8 years.

Its implementation will be pursued with the same perseverance by the people in the Tanami Communities as have earlier stages of development.

The present project involves the linking of four remote communities - Lajamanu, Willowra, Yuendumu and Kintore, as well as Darwin and Alice Springs with video conferencing facilities.

4.2.5 Victorian Example

The following is an excerpt from the D'Cruz Report (D'Cruz 1990) which studied policy and practice in delivery for both non formal and formal education in Victorian schools. A further project, the Ministry Telematics Support Network is about people from all areas of education and training - primary, secondary, vocational, industrial and tertiary - linking together for the purposes of promoting learning through Telematics resource sharing.

Assumptions of the Project

- cross-sectoral co-operation is desirable and essential;
- information technology and communications technology have a positive and productive role to play in education and training;
- information technology and communications technology and sharing of resources can assist in broadening the choice of students;
- the successful application of information technology and communications technology in education is dependent on human input and management, and
- the recommendations contained in this document will be considered in Ministry policy and planning and will be implemented in both theory and practice.

Summary of Findings

The Telematics Network Support Team has investigated telematics networks at various stages of their development. Across the State, the investigation has revealed a number of issues and needs which require addressing for the future and successful development of telematics in all Sectors of the Ministry of Education and Training.

1. Professional development for practitioners of telematics is crucial at all stages of the development of a network. A range of strategies including general awareness programs,

hands-on skills development, curriculum development and operational considerations are required. It is important that Professional Development be available to those with management responsibilities related to telematics as well as to those actually using telematics for curriculum delivery.

2. The integration of telematics as a strategy, planned and budgeted for as part of an organisation's total operation, is a significant step in the development of networks. The planned integration of telematics includes addressing issues such as timetabling, time allotments and allowances for teachers, initial capital outlays, recurrent costs and the sharing of resources.

3. There are a number of vibrant and dynamic telematics networks operating successfully throughout Victoria. Their further development can best be enhanced by the adoption of a strategic planning approach at the State, regional and local levels. Such an approach also facilitates the development of telematics networks in areas not currently served.

4. The provision of a system-wide policy framework for the development of local procedures and policies will facilitate expansion and improvement of telematics delivery, whilst encouraging responsiveness to local needs.

5. The development of networks within sectors of the Ministry of Education and Training, with associated resource sharing and cooperation, is extensive. The history of resource provision has encouraged more development in some sectors, but there is active interest in telematics throughout the Ministry. The challenge for 1991 and beyond lies in further development of cross-sectoral networks which allow more effective utilisation of resources.

6. The use of telematics and its associated technology is dynamic. New and upgraded technologies appear regularly in the marketplace; new and innovative ways of applying them, especially in education, are constantly evolving. It is therefore possible to identify an on-going and dynamic cycle of development that sees telematics practitioners and networks progressing through a series of stages:

   - from early experimentation and testing
   - through implementation and development
   - to refinement, innovation and promotion.

Because of the dynamic nature of this development, the constant emergence of newer and more accessible technologies and the variation in local needs and circumstances, all telematics networks appear to progress through this cycle. Importantly, any one network may operate at all three of these stages concurrently. As a consequence new telematics networks have an opportunity to observe, evaluate and build on the experience of the 'pioneering networks' preceding them. Any development of strategies and policy related to telematics, especially at the system level, will likewise benefit from a recognition of these processes.

An Overview of the Sectors

Curriculum delivery in schools through Telematics has been an evolutionary process, starting in late 1986 with the implementation of the Victorian and Commonwealth governments' Resources Agreement Number 3. The Telematics Operations Unit, part of the School Programs Division, oversees the implementation and management of telematics on a statewide level.

Telematics have been used to assist in broadening the curriculum available to students, especially in rural locations. Groups of schools have formed clusters to share the available teaching resources.

Teachers using Telematics operate in an 'extended classroom' environment instructing students in a remote school and in their own school simultaneously. Class sizes are kept small to allow for maximum interaction. Up to three different links using varying forms of technology, may be used to bring the students and teacher in contact with each other.

Schools themselves have been directly involved in a great deal of the developmental work towards the creation of a system that meets the very specific needs of the extended classroom concept and now almost all areas of the curriculum are being taught via telematics in various locations across the State.

There is no suggestion that Telematic curriculum delivery is as good as face-to-face teaching. However, students in remote locations have a greater curriculum choice without the need for studies by correspondence, or to move away from home.

Several very useful side effects have surfaced for students studying in this manner:

- greater awareness and skill of the technologies involved;
- greater responsibility assumed for one's education, and
- the chance it provides for teachers to review the curriculum they are teaching along with appropriate modes of delivery.

The extent to which the use of telematics-based curriculum delivery has progressed is a reflection of a number of interrelated factors and influences including the financial contribution of the Commonwealth Government and the initial placement of equipment in schools with a prior history of resource sharing and cooperation based on their clustering, often under the Country Education Project.

Within the State Training System, TAFE Colleges have been trialling, using and evaluating a variety of telematics technologies. Optel, Mac/Fax/DUCT, Vistel, ISDN, the satellite and audio conferencing are just some of the telematics technologies being investigated. And in 1991 the Office of the State Training Board will establish a Centre for Flexible Learning to provide system-wide coordination of Open and Flexible learning in the TAFE Sector.

Telematics are being used regularly in the TAFE sector, with major emphasis on audio links using handsfree telephones or audioconferencing units such as the DUCT unit. Some of the Colleges have installed their own audioconferencing Bridges so it is not uncommon for curriculum delivery to take place through multipoint links. Other Colleges have used Telecom's Teleconference service to the same end.

Footscray College of TAFE has made a major investment in and commitment to Olivetti's OPTEL system. Three-way multipoint links have been established on a trial basis but the system appears to have been slow in gaining general acceptance amongst other TAFE colleges. Outer Eastern College of TAFE has also made a sizable commitment to OPTEL.

Some Colleges have Satellite facilities which have enabled them to receive programs from various venues such as Sunraysia College of TAFE, The Gordon Institute and from interstate sources as well.

Vistel has also been used by several TAFE colleges, primarily for administrative purposes such as college council meetings with the State Training Board.

There is a strong interest in the use of Telematics across the TAFE sector. A strong desire to coordinate the various colleges' approaches is becoming apparent so that more productive and positive use can be made of data and video links in the delivery of TAFE courses.

Some TAFE teachers have expressed the need for more guidance at the system level about future directions for telematics delivery. Increased funding and support for experimentation with the various available systems and for more extensive and intensive professional development is regarded as having a high priority.

The Division of Further Education has recognised the important role Telematics can play in the delivery of further education, especially in the non-metropolitan regions.

To date the Division has concentrated on hands-free (loudspeaking) telephones for use in the programs it offers. Telematics practitioners have utilised audio and, when possible, the document (facsimile) links to provide:

- tutor-training programs usually on a 1 to 1 basis, for volunteer Adult Literacy and Basic Education tutors;
- to establish a support group for tutors of intellectually disabled students, and
- in course delivery, including the provision of Adult Literacy and Basic Education programs for the Office of Corrections.

The Division of Further Education and its providers have a well established reliance on support from other sectors of the Ministry of Education and Training. The majority of the programs for which they have responsibility are clearly cross-sectoral. Staff have recognised some of the practical and procedural problems which arise from such an approach.

There is a growing awareness among the Division of Further Education that telematics has the potential to broaden the Division's client group, develop the curriculum they offer and generally improve access to their services. There is clear potential for people in even the most remote and isolated areas of the State to receive further education using telematics. However, there is a need for practical demonstration and utilisation of the technology - professional development - to be implemented is this is to take place.

4.2.6 Queensland Example

Queensland has a relatively dispersed population through the entire state. TeleLearning and the use of technology in delivery of Education has been regarded as a priority area of research since the early 1980's. Experiments and trials were conducted using AUSSAT, a communications satellite, and with other means of transmission and message receipt.

Its main summary points are:

- Teacher attitude and the level of administrative support are the key factors contributing to success, not a teacher's prior experience or the sophistication of the technology employed;
- Increasing the complexity and number of the devices attached to the system is likely to increase teacher management overheads but not necessarily increase the level of meaningful interactions between students and teacher;
- The nature of the environment in which TeleLearning students must operate influences the number of students that can participate, the reliable functioning and maintenance of equipment, and the type of subjects that can be taught;
- Supervision requirements decrease with older students but there is a distinct need for an adult at the receiving school to assume a pastoral role at all levels;
- Full-duplex phone systems are the most appropriate for high levels of two-way student interaction but the type of equipment required will vary in complexity with the size and age of the student groups;
- The successful implementation and the long-term cost-effective utilisation of TeleLearning will be a product of long-term regional planning and management rather than the future development of communications equipment;
- There is a real danger that schools will see the TeleLearning equipment as belonging to them rather than as a regional resource to be moved to appropriate locations. If the process becomes 'institutionalised' in one school because of poor planning and administrative apathy, the cost-effectiveness and value of the concept will be lost;

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- As well as this particular case, Queensland is committed to providing services in the following areas

  - Technology related courses,
  - Electronic Hearing Centres which involve the use of computers and other technologies in both classrooms and resource areas such as libraries,
  - Telelearning - communication technologies connecting students, and
  - Distance Learning System - loan of computer equipment to students in Distance Education, coupled with specialised learning packages tailored for distance education.

This trial has highlighted both the opportunities and difficulties common to all technology delivery of programs, including non-formal and ad hoc training or education.

4.2.7 National Remote Areas Project

The full provision of access to education in the most remote areas of Australia has always proved to be a complex and difficult task.

Aboriginal people make up the majority of Australians residing in the most remote areas. Yet historically distance education programs have not been designed around their needs and requirements, and delivery strategies have frequently overlooked remote Aboriginal communities. Unacceptably high numbers of Aboriginal students are not participating in education. A large part of this non-participation is due to limitations in access of remote area Aboriginal students to basic primary and, most particularly, to secondary education.

The establishment of a working party by the Australian Education Council (AEC) has recently led to a collaborative development of a project to provide distance education delivery of junior secondary education. The Northern Territory, in close co-operation with South Australia, Queensland and Western Australia has undertaken the task of providing secondary education appropriate to the local setting of remote Aboriginal communities. This principle is particularly important for Aboriginal students in remote areas because removal from the home community to undertake schooling may entail more than family disruption. It can involve dislocation from the cultural setting of the student's heritage.

The major challenge for this AEC project is the provision of access to full secondary schooling for remote communities and to strike a workable balance between the way schooling is normally provided on a full-time basis in order to complete courses and the cultural obligations placed on secondary-aged Aboriginal students. The answer lies in the development of learning packages that adopt a modular approach, allow self-paced learning, are flexible in sustaining open entry/open exit, flexible timetabling and flexible school year in remote communities.

4.3 Regional examples of school/community partnerships

Indonesia

Closing the quality gap between rural and urban education is a constant item on the agenda for countries like Australia with widely scattered small communities within a vast arid land area. It is also a key area of concern for most SEAMEO regional member countries who have large numbers of islands, mountainous areas, low lying infertile coastal areas and arid landscapes. In Indonesia for example, the following target groups were identified where small schools have difficulty functioning well:

- nomadic groups;
- boat people known as 'Orang laut' who live on boats all over the archipelago e.g. on the east coast of Sumatra and along the Flores and Sambawa Islands;
- Children of small communities in densely populated areas;
- the handicapped, and
- children of low economic status in big cities.

Other countries in the South East Asian regions similarly identified target groups. Some of the solutions being proposed now in Australia are regarded as innovative within our current national context.

Many of these so called innovative solutions are of course not new at all in the South East Asian context. A high level of local community involvement, the pairing of industries with schools, the establishment of and the installation of 'real world' production units in schools and the installation of modular instructional systems have been trialled and developed for 10 to 15 years.

Set out below is a brief summary of Indonesian experiences in developing small rural schools drawn from two papers presented by the Indonesian Department of Education* at the recent UNESCO sponsored South East Asia and Pacific Regional Conference on 'Education for All' in October 1990.
In the target groups listed above, the reality is that the diversity exists in the socio-cultural as well as the natural environment. Centralised curriculum is considered as one way of facilitating integration of a nation through education because it helps use communication as well as facilitates mobility in communities from one place to another. On the other hand it is not necessarily the only solution to the problems of educating the target groups mentioned above.

In order to meet the needs of the target groups for the education of children in remote rural areas, the small school pilot project was launched in 1978 in a number of villages in central Kalamantan. After 15 years of development and experimentation however, more than 20 000 small primary schools were involved in the program. The small schools concerned had a

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* Notes:

Prof Dr Mogleadi , *Equity and Education - Indonesian Experience* , Paper for Education For All Conference - October 1990 Darwin, Australia.

Dr Benny Suprapto Brotosiswojr, *School/Work Interface and Continuing Education for People in Remote Areas* , Paper for Education For All Conference - October 1990 Darwin, Australia.

number of innovative features:

- Pupils learned through modular instructional systems through the upper primary grades in addition to face to face contact between pupils and a tutor. Hence there is a long experience of using a modified approach to self-paced instructional material now being advocated in Australia through Open Access Learning Centres;
- Alternative methods of staffing were used in the small schools in addition to teachers, tutors, peer tutors and senior tutors were used;
- Skilled instructors were also recruited to teach areas of local relevance. eg. local skills development subjects;
- Innovative methods of involving the community in support of the school and bringing the school into communities were used. For example, "learning kiosk" in the school yard where pupils can study and conduct small group discussions. Learning places known as 'Patjar' where pupils could be supervised by home tutors and peer tutors were built by local communities, and
- Local government support was enlisted to motivate the members of communities to send their children to school.

Contrary to what might be expected, the skills required of teachers in the small schools situations exposed the teachers to greater challenges than those experienced by the normal classroom teacher in a large school. Teachers in this program among other things were required to be able to prepare and develop a new self-instructional material for the senior grades. They had to develop skills in diagnosing learning difficulties and helping each individual pupil to progress at their own individual pace. Teachers had to develop complementary skills to continuously evaluate and monitor the individual progress of each pupil as one would expect. School and classroom management for multigrade organisations were also required and as indicated above teachers needed to develop the skills to mobilise, organise and utilise community resources in a way in which most teachers in larger schools would not normally do.

One of the strategies advocated now in Australia to make open access learning work for schools, technical education and higher education is the use of modular learning materials. The Indonesian experience in the use of modules showed that some projects ended up with rather unsuccessful outcomes through using self-instructional material. Many reasons are given for this such as:

- the quality of materials including the level of language used;
- the overall management of the program such as the distribution of materials and modules to each individual pupil and teacher;
- the availability of complete sets of materials in each schools, and
- readiness on the part of the pupils, teachers and other educational personnel to use the materials.

A key outcome of the evaluation of this experience was that it seemed inappropriate to use nationally standardised modules for all pupils in remote areas of the country irrespective of the cost effectiveness of the program. A lesson for this in Australia is that in organising instructional

design and technological support for individual learners we should note of the Indonesian experience. In particular we should take note that these programs will not work unless the teacher, lecturer or organiser of the program is very skillful in classroom management either within a classroom situation or in the extended classroom situation using distance education techniques.

To put it another way, we are not yet at the stage where individual learning and self paced instruction is independent of the teacher except for a very small and highly motivated and organised section of the student body. For most students, modularisation and open access must still mean regular contact with a teacher or supervisor either in the classroom or tutorial situation. The recent Australian experience and the potential of the new technology is that the range of delivery will be vastly increased that the teacher of the future may be 1 000 kilometres away from the students of tomorrow. It is possible that they may never meet face to face. Instead they will communicate through a number of modes, print, facsimile, one way video, radio, telephone and computer-to-computer. Face to face contact when required may not be through the distant teacher who may have 10 000 students in his/her class. It may be through a locally employed tutor dealing with 12 to 30 students in a local area. Twenty years ago and perhaps even ten years ago, such notions were futuristic. In some countries now, they are reality and they are working. By the year 2 000 their use will be common place.

To take full advantage of these possibilities will require careful planning and close attention to instructional design and modularisation so that programs can be modified with changes in technology and changes in content from year to year.

The day of the long developmental project to produce 'perfect materials' is probably past. The speed of communication, the degree of technological change and the emerging community needs will force on us all changes in our teaching and learning methodology. All of these changes are positive for improving the quality gap between urban and rural education.

Solomon Islands

An example from the Pacific region can be found in the work of the Solomon Island Development Trust (SIDT) which, in 1982 began its village outreach program to touch rural people's lives in a sustained and penetrating manner. From the very beginning it prepared teams of villagers to become the sharers, teachers and consciousness raisers of other village people. These Mobile Teams were not city cousins bringing the education good word but were themselves villagers living and working among other villagers.

Over the past eight years the mobile teams have conducted more than 3,000 workshops using a number of group-analysis tools like the Development Wheel, the Village Quality of Life Index, Past/Now/Future and Village Economic Resource exercises to draw out villager information and understanding. The facts provided by villagers through the use of the above mentioned exercises became the raw material of the village-level workshop.

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Population education, resource management and well being at the village level is SIDT's latest outreach pattern for 1990 through 1992. Over the past years it has focused on different aspects of village living. The first three year period it concentrated on water supplies and sanitation. The second three year plan (1987-1989), Disaster Awareness and Preparation, was a response to the devastating cyclone which struck the islands in 1986. Its current education outreach programs have been tied to the needs and desires of villagers.

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Position Papers

Rural Education and the Beginning Teacher

Andrew Higgins, *Queensland Department of Education*

Abstract

The purpose of this article is to demonstrate some of the major issues beginning teachers will face in their first postings to rural areas. The issues are not only those of pedagogy but also those of living in rural places, of understanding the factors affecting isolation and how their combination can influence events in and out of the classroom.

The types of isolation, ways of coping with isolation and conditions affecting isolated people are a world-wide phenomenon that impact on the delivery of rural education in western countries, including Australia.[1] These factors hold great significance for teachers starting work in rural areas. An understanding and appreciation of these factors can influence how successfully teachers can interact with the community as a whole and with the students they teach.

In Australia, as elsewhere, the value of agricultural and mixed commodities varies with changes in worldwide demand and, as a consequence, rural incomes fluctuate, sometimes dramatically. For example, if the value of a mineral rises, as gold does during war or depression, the number of gold mines and miners rises, swelling the population in gold mining towns and increasing the demand for teachers. In other circumstances, the opposite occurs and mines close. Similarly, when prices for wheat, beef, wool and sugar rise, farmers, graziers and pastoralists prosper, and small towns grow, as do enrolments in private schools. In poorer times, families keep older children at home and spend less in towns.

Farmers collectives, such as the Australian Wheat or Wool Boards, attempt to influence farming incomes by governing the supply side of the supply and demand equation in order to achieve a more evenly spread income. However, farm employees and residents in small towns cannot influence income as easily, except through organised labour, which is effective only for those who are employed. The result is uncertainty of income and of future prospects, particularly for the young.

Primary producers in the developed world sought to improve the efficiency of agriculture, mining and fishing by the application of technology and capital to their enterprises. Mines use more machines, farms consolidate and apply more efficient equipment to reduce labour costs and maintain profits. As a result, primary producers need fewer people in their enterprises. The

geographical result of this economic trend has been the 'rural-urban' drift - the movement of people gradually from rural to urban environments. The most obvious consequences are seen in the decline of small towns, the closures of schools and banks and, finally, the cessation of the town as a viable social and economic proposition. Some of the larger regional centres grow as people move away from the smaller towns. Statistically, the population within an area may appear to have changed little, but the peoples' values may have altered from a rural to a more urban perspective.

Cy Maxwell,[2] on behalf of the organisation for Economic Co-operation and Development (OECD), pointed to four major trends in western rural societies:

- the rural-urban migration;
- decentralisation of educational service delivery;
- rural dissatisfaction with inflexible educational service, and
- a renewed respect for rural education models.

In particular, Maxwell[3] highlighted the benefits associated with rural schools:

1. 'the role of the rural school as a source of community pride, identity and stability in its setting;

2. the informal familial environment which exists in many (though by no means all) small rural schools;

3. the relative success of rural schools in teaching the so-called 'basics';

4. the historic role of schools in sparsely populated areas as natural laboratories for such 'innovative' educational practices as individualised instruction, cross-age grouping, older students teaching younger students, using the community as a learning resource and 'mainstreaming' mildly handicapped children;

5. concern about equal educational opportunity which have emerged over recent years; and

6. the recent preoccupation with equity generally, and aid to disadvantaged populations in particular.

Recognition of these elements is important for beginning teachers because each provides indicators to the nature of the community in which the school is located so that teachers can work effectively. They need to be able to relate to the community as a whole and to understand some of its major concerns. This, in turn, helps teachers to see the students as individuals within the contexts of their own world. Being aware of this context not only leads to an easier social acceptance but also to a capacity to link each lesson to the daily realities experienced by the students in the class.

Steven Clark,[4] makes a distinction between 'rural education' and 'education in rural areas'.

This analytical approach demonstrates the confusion arising among educators when considering this topic. Teachers need to clarify the concepts because they draw a neat distinction between, on one hand, the provision of a standardised statewide education (in curriculum terms) and on the other, a curriculum specifically designed for students tied to the rural location. 'Rural education' in this setting becomes 'agricultural education' or, for Aboriginal people, 'culturally-based education', while education in rural areas becomes the means of providing a common curriculum in a rural place.

The distinction is important because it points to often unrecognised or unspoken concerns held by communities about the education students receive. For example, an Aboriginal or Torres Strait Islander community may see only a limited relevance of a state curriculum for the students in terms of a community's lifestyle. Some communities, especially the more remote, prefer to limit a culturally inappropriate curriculum. The outcome tends towards the preservation of that community's beliefs and value system at the expense of allowing students access to a broader (if more dominant) way of knowing. On the other side of the coin, the application of a statewide, rigid curriculum, while giving all students an 'equal' education misses the point that students are different and contributes towards a cultural uniformity.[5]

Teachers working in disadvantaged urban schools who also worked in some larger rural schools at the secondary level comment on the similarities they find in the attitudes and expectations of students in both the rural and urban environments. Yet, rural and urban situations appear to be fundamentally different. The paradox is difficult to explain. State and Commonwealth education systems recognise it by providing funds to schools in accordance with indices of disadvantage established for the Special Programs Schools Scheme and the Disadvantaged (or Priority) Country Areas Program (PCAP in Queensland). Each program seeks to alleviate disadvantage and both rely on the communities in the eligible areas applying for funds to overcome difficulties caused by local circumstances. It is significant that both schemes allow for diversity in response but insist on involving not only the school and its teachers in the preparation of submissions, but the applications also have to demonstrate community involvement and support.

Schemes designed to improve schooling often used the concepts associated with 'Equality of Opportunity' to justify unequal expenditure on some aspects of educational provision. The development of educational provision to Australia as a whole has been characterised by a rigid concept of uniformity. It came to mean equal provision of buildings (of a standard design regardless of climate), instructional material and pupil-teacher ratios. This situation raises the question about the wisdom of having a common public policy that disregards local circumstances in the broad sense, but then making minor allowances through special schemes afterwards.

Looking specifically at rural education, teachers might ask what are the characteristics of isolation and what these mean for educational provision. The feature most frequently associated with Australian isolation is geography. Great distances and sparse population characterise the world's remote places, but the notion of distance is not confined to the distance between places. There are other factors, including time taken to travel, cost, terrain and

technology. Itinerant teachers based in Schools of Distance Education/Schools of the Air travel great distances to visit the most remote stations and properties. If the purpose of the travel is communication, then telephones (terrestrial or satellite) can be used to eliminate travel.

Geographic isolation is not the only form of isolation: minority cultural groups, especially Aboriginal and Torres Strait Islander people are isolated from the values of the dominant Eurocentric Australians. In some cases, they are even isolated from their own lands because of land tenancy laws and historical events. Similarly, non-English speaking immigrant communities in remote places may also be isolated from the English-speaking majority.[6] Both of the groups create special problems in the provision of education because their needs are complex and unfamiliar to educational administrative personnel. Additionally, neither may use English as the usual language of communication.

Social isolation occurs equally in rural and urban societies, but its effects stand out clearly in smaller remote communities. Social differences recur through differences in status attributable to circumstances of birth, employment, wealth and class grouping. Teachers, in the primary schools will soon be made aware of the differences between families owning properties and using the Schools of Distance Education and those who live in town and attend the local school. Similarly, the tradition of some families sending students to boarding school as opposed to those attending the local small high school (or secondary department) will become evident to secondary teachers. In fact, one small town, Charters Towers in Queensland, has six secondary schools supporting boarding students and a State High School catering for the local students. The pastoral town of Toowoomba, one-thousand kilometres to the south of Charters Towers, is in a similar position. Some families maintain their own traditions of sending students only to certain schools in major cities such as Sydney, Melbourne or Brisbane. Rural teachers should be aware of the status levels families accord to themselves or are given by others. Of course, such information makes no difference in the classroom context, but may help the teacher be more aware of social context prevailing in the community in which, for the time, that teacher must live.

In some small, but well established rural places, the community's members are well aware that teachers are only temporary residents, keeping good company with other officers employed by a variety of government agencies or major banks. For some residents, the cost of investing too much energy in befriending peripatetic teachers is too high. It is to this extent that teachers suffer social isolation and tend to turn more towards other non-permanent residents for social relaxation. As a consequence, the more distant the teachers are from the concerns of the families, the greater is the communication gap between the teachers, the students and their families. One experienced school administrator, a female deputy principal, adopted a policy of always accepting the first social invitations offered to her, but chose subsequent ones with much more care. She reasoned that, by being willing to participate in the town's life, she demonstrated a commitment to her job of teaching in that place. Her experience showed that first invitations refused rarely resulted in second offers. To summarise, rural communities have groups socially isolated from each other and from the itinerant staff in schools. Teachers ought to be aware of these divisions so that they can function more effectively.

Teachers are often asked to confront teaching situations for which they have had little formal preparation, for example, in the education of students with special needs. In the smallest schools, teachers, especially beginning teachers, feel professionally isolated from the appropriate specialist help. Education Departments employ visiting guidance officers, remedial, resource, music and physical education teachers to give specialised assistance. However, in the smallest schools such specialists can only visit on infrequent occasions and the permanent staff need to rely on telephones to keep in touch with regionally or centrally-based 'experts' who are desk bound and able to answer phone calls. Most education systems offer in-service work to beginning teachers, sometimes by way of a reduced teaching load and in-house seminars. On other occasions new staff may participate in a week's Withdrawal from the classroom. The purpose of such sessions is to enhance skills and reduce the sense of professional isolation felt by teachers, but they rarely contain sufficient training in preparing teachers to deal expertly with students having outstanding special needs.

Education Departments recognised the professional isolation suffered by teachers. For example, in Queensland the fore-runner of the Secondary Correspondence School was a system of education using notes of teacher-training lecture notes being mailed to teachers working in remote places. By reading the notes, passing examinations and by being inspected regularly, teachers could move up a promotional ladder from unclassified assistant teachers to Head Teacher of a primary school with several other teachers on the staff. By using the Correspondence System, Departments slowly raised the qualifications of teachers and today, many teachers pursue higher degrees by enrolling in externally offered university courses.

Communities in remote places often move quickly to adopt technological means to overcome their isolation. The rapidity with which such communities adopted radio communications gives testimony to this fact. The urban-rural division mentioned frequently in rural studies literature emphasises the need for an ongoing interaction between rural and urban communities. Rural radio and television programs serve to respect this need.

Despite such efforts it is a fact that most teachers have their origins in Australia's coastal cities. When moving to rural areas, teachers may recognise that isolated people develop a strong sense of 'Community' because of the similarities of the interests. For example, the establishment of the Isolated Childrens' Parents Association at Bourke (NSW) in 1970 demonstrates the communal concerns showed by the most remote farming families for the education of their children. The Queensland Aboriginal and Torres Strait Islander Education Consultative Committee performs a similar function for some Aboriginal and Torres Strait Islander groups.

The Remote Area Teacher Education Project (RATEP) delivers higher education teacher preparation courses on-site to Aboriginal and Torres Strait Islander communities. In effect, it trains community people to become community teachers without them having to move to formal institutions such as university campuses. An increasing self-awareness among isolated communities may lead to the development of special communications skills. For example, at a basic level, even very young children on remote properties operate High Frequency radio sets during 'on-air' lessons with Schools of Distance Education. More general communications in isolated places arise from radio and television broadcasts. These originate in major cities,

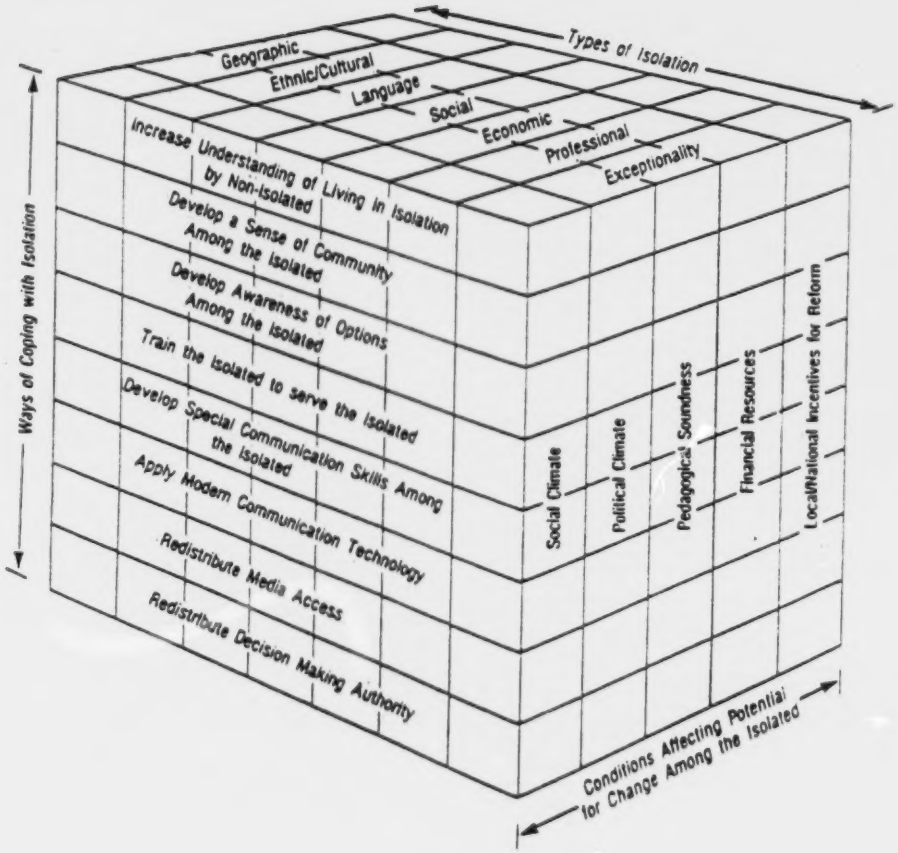
reflecting the concerns of the urban people. Some stations include local content, but only the Central Australian Aboriginal Media Association focuses on minority (Aboriginal) issues. News, current affairs and sports broadcasts help to weld a nation by giving it common experiences, but syndicated foreign programs lack significant cultural, national or local reference. Teachers need to identify and promote the media skills of rural students, not only to be able to use equipment, but also to analyse and comprehend the type and character of the message provided through the medium.[7]

Teachers working in any educational setting are influenced by the social and political climates. Stress on topics changes from time to time, leading to different curriculum emphases. Greater understanding of how children learn means changes to teaching techniques or assessment methods. General economic wellbeing of the state or the nation affects the availability of funds to implement educational change and innovation. Also, the administrative climate within schools and departments affects the willingness of teachers to seek change in the educational enterprise. All of these factors combine together to influence the responses isolated communities and teachers make in the provision of education to the students. The following diagram[8] (Figure 1) identifies three dimensions of isolation: types of isolation, ways of coping with isolation and conditions affecting potential for change among the isolated. All three impinge on the form, quality and extent of education in remote places. Each dimension, when analysed independently of the others, seems to be simple. But when each dimension is considered in relationship to the other two, then the process of analysis becomes a complex but more satisfying means of analysing education in isolated places.

Teachers beginning their careers in rural schools will recognise that 'rural education, or the provision of education to rural areas is not a single entity, but a complex task of relating curriculum to people in places being taught by those whose tenure may be only temporary. As Darnell and Higgins[9] claim 'The particular combination of qualities that go to make up rural people and how they perceive the world around them may distinguish the character of rural life more than geography and vocation. As respecters of learning on one hand, but with the inclination to be suspicious of institutions on the other, the school is often a paradox to rural residents. To reduce the paradoxical element in school/community relationships will require a more closely aligned partnership between community residents and school staffs.' The solution, then might be to allow communities to have more say in the operation of their schools.

It is into situations such as this that beginning teachers, whose origins are most likely to have been urban in character and whose social and pedagogoic skills are least developed, are thrust. Teacher preparation courses focus attention on content and method but perhaps students might also benefit by being introduced to those factors that influence the communities in which they will be employed. Most institutions preparing teachers would claim to incorporate elements of preparation for rural teaching but perhaps it is time to consider the matter in more depth than is often the case today.

FIGURE 1



Three-dimensional Model for Assessing Inter-relatedness of Factors that Impinge on Education in Isolated Places

ENDNOTES

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The Remote Aboriginal Education Project

Peter Jones, *Northern Territory Department of Education*

The intention of this overview paper is to:

- outline some research needs as they apply to Aboriginal students in remote contexts;
- identify possible researchers and the resources to facilitate this research;
- list some locations where research could occur, and
- suggest a strategy for the implementation of remote area Aboriginal education research projects.

While this paper is titled The *Remote Aboriginal Education Project*, the use of the word 'remote' is not by choice of the author. Where Aboriginal people are living in their own home communities, it is probable that they would view the larger urban centres as being remote from them, not the other way around. There is a role for the term remote, in that it can refer to a separation between student and educational service provider, and it is in that sense that this paper views remoteness.

Research Needs

Why?

It is indeed probably easier now, rather than at any earlier point in time, to argue the need for research in relation to Aboriginal students in remote contexts. The reason for this is the recent significant injection of Commonwealth funding into Aboriginal education through the Aboriginal Education Policy (AEP), and the range of interstate collaborative curriculum projects being undertaken under the auspices of the Australian Education Council (AEC).

The Northern Territory Department of Education's 1990-1992 AEP Strategic and Operational Plans have attracted approximately $10.5 million for each year of the triennium into Northern Territory Aboriginal education projects. The Plans were prepared in response to the Commonwealth Government's AEP policy, which was based on four main principles:

- the involvement of Aboriginal people in educational decision making;
- equality of access to educational services;
- increased Aboriginal participation in education, and
- equitable and appropriate outcomes for Aboriginal people.

(Northern Territory AEP 1990-1992 Strategic Plan, p 2).

These principles, which were framed by the *Hughes Report*, as they reflect the same concerns contained in the title of this conference, i.e. *Education, Equity and the Crisis in the Rural Community*. Any brief examination of the participation and retention, let alone the graduation rates of Aboriginal students from remote areas, will attest to the lack of educational equity and the continuing crisis facing the Aboriginal community, particularly in relation to equitable outcomes in secondary education. The *NT AEP 1990-1992 Strategic Plan*, stated that

> around 72 per cent of Aboriginals in the compulsory schooling age group are participating in schooling, compared with a national rate for all Australian children of almost 100 per cent

and

> only 20 per cent of Aboriginals aged 16 and 17 years are participating in schooling, compared with a national rate of almost 55 per cent for all Australian 16 to 17 year olds. (Northern Territory AEP 1990-1992 Strategic Plan, p 12).

With the availability of the AEP funding, it is timely for research projects which will provide the basis for adequate planning to ensure that the AEP principles listed above are appropriately addressed. While the opportunity has been missed for the 1990-1992 triennium, results from research projects should be most useful in assisting with planning for future trienniums.

There are also significant interstate/territory developments which further highlight the need for research projects relating to Aboriginal students in locations geographically distant from formal education services. In particular, the existence of two Australian Education Council (AEC) working parties addressing the delivery of educational services in remote contexts is important.

One of these groups is the *Working Party on a National Open Access Curriculum Framework for National Telecommunications Delivery*, which is developing a framework for the delivery of educational and training programs in schools, TAFE, higher education and industry sectors. This framework will complement other AEC national collaborative curriculum projects between participating state/territory systems.

The other AEC group is the *Working Party on the Provision of Access to Education in Remote Areas for Aboriginal Students*. This group is developing five related projects which will provide support for:

- Aboriginal students in Homeland Centres where no schooling facility exists;
- remote area parents or community members who act as student tutors;
- students studying at secondary level using distance education techniques;
- teachers in small isolated schools, and
- primary age students using School of the Air programs.

While these and other projects have been established in response to an obvious need, the question of a community negotiated, well documented and statistically validated research base

for educational projects involving Aboriginal people is yet to be clarified, let alone answered. Clearly if projects of national importance, like those I have referred to are to achieve their greatest effectiveness, the need for educational research should be apparent. In accordance with the first AEP principle, the involvement of Aboriginal people is central to the design and implementation of research projects affecting Aboriginal people. National policy and operational initiatives should be supported by a solid research base. This base should begin with the involvement of Aboriginal people in the design stage, and include Aboriginal community opinion supported by statistical data.

What

Having addressed the reasons for the need for educational research, it is also important to consider which areas require research activity. While a conference such as this could justifiably identify broad needs of Aboriginal students in remote locations ranging from preschool to tertiary education, the area of provision of access to secondary level education is probably the most significant. The *NT AEP 1990-1992 Strategic Plan* stated that,

> Aboriginal school participation rates fall away from ages 12 and 13 years, i.e. in the transition from primary to secondary, and fall markedly after the age of 14 years (Northern Territory AEP 1990-1992 Strategic Plan, p 12).

Resources Needed - projects and researchers

Projects

To take the need for the provision of secondary level education further, two possible research projects are suggested. One is a project to examine a range of possible modes of delivery of secondary education, the other would seek to assist with documentation of an existing secondary education project.

At present the Northern Territory Education Department has access to information on Aboriginal primary-age students through the Primary Assessment Program (PAP). This Program currently assesses students in English and Maths at a Year five and seven academic level. A significant proportion of these students who are capable of secondary studies, continue their education into the secondary years through study in their local community. A research proposal could be developed focusing upon students with demonstrated academic ability, to establish the secondary level needs of these students, in particular the most appropriate mode/s of delivery to meet their needs. By conducting this research on a Territory wide basis, the needs of students in a range of contexts, i.e. the Top-End, Central Australia, Homeland Centre communities, urban isolated, pastoral properties, etc, could be determined.

The other proposal is related to an initiative which is being developed in the Tanami Region of Central Australia. Through the use of compressed video, satellite telephones and radio/ telephone technology, a new approach to the provision of secondary education has been planned. So far, trials and workshops have been held to establish the viability of the the technology being used. Further trials involving the use of these technologies for educational purposes are planned during 1992 with Aboriginal secondary students.

The Tanami communications project is a major development because it addresses the areas of remote Aboriginal students studying at a secondary level using distance education technologies. Given the importance of this innovation, and the development of other national projects in related areas, the education component of the Tanami communications project certainly warrants research to assist with the documentation of the project to create a community opinion data-base with accompanying statistical data.

Researchers

Concerning the modes of secondary delivery research suggestion, the work of this proposal could be undertaken by the Evaluation, Research and Assessment (ERA) Section of the Curriculum and Assessment Division of the Northern Territory Department of Education, in conjunction with some Aboriginal communities. The ERA section, (which has to approve any research activity undertaken within the Territory Education system), with support from the Department's Statistics/Demography Unit of the Information Management Branch and with cooperation from the Operations North and South Divisions, would have access to the information required to commence the research task. Once a statistical profile had been prepared to identify probable secondary level students, a number of Aboriginal communities could be selected with a view to conducting an indepth discussion with Aboriginal community members on the most appropriate delivery models for the provision of secondary education. This research task should also involve the Aboriginal Education Standing Committee of the Northern Territory Board of Studies.

The Tanami research proposal would need to be negotiated with the Tanami Communications Management Committee and other stakeholders. While a range of research approaches could be suggested, it is likely that they and the Aboriginal communities to be involved would request ethnographic, local community, action research types of research approaches to be used. Depending on the model agreed upon, there may be a role for an external facilitator/consultant, to provide assistance in the development of the research model, the conduct and documentation of the research.

Appropriate Locations

The locations to be used would need to be defined by each of the research projects as appropriate. The secondary delivery modes proposal should not overlook the requirements of students throughout the Territory, i.e. from Galiwinku to Docker River, those resident in

Homeland Centre communities, students adjacent to or in urban centres, students on pastoral properties or associated with mining communities, etc.

Strategy and Funding - consultation and dollars

Consultation

The need for research projects to conduct adequate consultation during the research design phase of their proposal is important, but is particularly important in relation to research projects involving the Aboriginal community. The reason for this is simple enough, but is still often overlooked by non-Aboriginal researchers when research projects which affect Aboriginal people are being developed. It is now recognised that Aboriginal people have to be central participants in policies and programs which will affect them because without Aboriginal community involvement, there will be a lack of commitment and participation from Aboriginal people. If programs affecting Aboriginal people are to operate successfully, consultation and involvement should occur from the commencement of the programs design.

Dollars

Funding for the above projects could be obtained from a number of sources. In relation to the modes of secondary delivery research proposal, it could be a joint Northern Territory Education Department and Department of Employment, Education and Training (DEET) project. The Northern Territory Department could offer research expertise and operational staff to conduct the research, with DEET, possibly through the second triennium and AEP funding, providing financial support to facilitate the project.

The Tanami proposal could be resourced by contributions from the companies/agencies which have been involved in the development of the Tanami project to date, i.e. Aboriginal and Torres Strait Islander Commission (ASTIC), AUSSAT, GEC, Plessey Telecommunications, Imparja, Northern Territory Open College (NTOC) and Telecom. Certainly these bodies should be consulted should the proposal gain acceptance from the Aboriginal groups involved.

Other possible sources would be DEET or tertiary institutions with an interest in distance education technology usage.

Summary

In this overview paper it has been suggested that there is a considerable need for research into some areas relating to Aboriginal students in remote locations, particularly in the light of recent developments, i.e. AEP and AEC. It has been emphasised that in relation to Aboriginal communities, collaborative/ partnership/team efforts are needed at the design and implementation stages, involving those affected by the research i.e. Aboriginal people, and the systems which need the research findings for effective planning.

Teacher Satisfaction and Community Action: Improving Education in Rural and Remote Schools

Don Squires, *Charles Sturt University - Mitchell*
Alan Watson, *University of New South Wales*
Neville Hatton, *University of Sydney*
Izabel Sollman, *University of New England*

Abstract

The current concern to make schools more effective has produced major structural and administrative changes in Australian education. In arguing that the heart of educational improvement has to do with the quality of the interaction of teacher and pupils, this paper focuses upon the way the community can contribute positively to better schooling.

Based on the authors' recent research into teacher satisfaction and staff turnover in locations that are difficult-to-staff, the paper argues that the local community is a great untapped resource for school improvement. An increased sense of local ownership of schools and a direct community input into teacher induction are two ways that parents can help raise teacher satisfaction and so enhance the quality of education. The wider community, however, has an important part to play because of the considerable disadvantage faced by schools in less favoured locations. Long-term policy initiatives are required to reduce excessive turnover and to strengthen education when schools are difficult-to-staff and especially if the local community lacks the capacity to take advantage of greater local participation in decision making.

There is an implicit asumption in much writing about rural education that identifies the essential task for the rural educator as one of providing education for rural students that is 'as good as' that provided for urban Australians. Indeed, many would argue that the models that inform educational provision in Australia were those developed in urban settings and that the continuing challenge for rural educators has been to conscientiously ignore the differences in the environments that confront them in order to remain loyal to the models. The obvious danger in this approach is that is it is becoming increasingly hard to sustain the myth that urban schools are universally sucessful, or that those which are successful can attribute their success to their

location. Clearly, many urban schools are, as Jonathon Sher suggests, 'dysfunctional and deeply troubled institutions' of which he may rightly ask 'Who today could argue, with a straight face, that urban education is such a stunning success that it deserves to be emulated throughout the nation's small towns and rural areas?' (Sher, 1991).

For these sorts of reasons a new focus has entered the debate about questions of equity in educational provision. Rather than seeking equal provision amongst schools and educational service providers, this approach suggests that the goal should be that of ensuring that the highest *quality* education is achieved regardless of geography, socioeconomic status of the learners or the vicissitudes of the national economy. The goal is ordinary enough — it merely asserts that all learners are of equal value and that if the nation is to earn international respect as a developed democracy and to meet its national objectives then only the highest quality educational provision is appropriate to each learner. What this perspective does force us to confront, however, is that to achieve that goal in a sparsely settled and geographically diverse nation such as ours may require some very extraordinary approaches.— in Jonathon Sher's words 'ordinary education via extraordinary means' (Sher, 1991). Australian education has developed a strong tradition in this area — School of the Air is a prime example — but there is a need to ensure that contemporary developments are similarly daring, creative and appropriate.

Some recent publications have been useful in underscoring the set of components that contributes to quality in schooling. In the extensive **Central Schools Project** researchers at Charles Sturt University explored at some depth factors which were associated with the strongly positive perception of Central schools by pupils, parents and teachers. Most important amongst these was the positive nature of the various relationships that were developed between participants in the educational enterprise at the schools — between students and teachers, teachers and teachers, teachers and parents, students and students, etc. (Sinclair, et al. 1989). The crucial contribution of these relationships to 'curriculum' (defined as the shaping of understandings that occurs in each individual learner's head under the influence of the formal and informal learning program) is emphasised by Squires and Sinclair (1991:35,36) who point out that 'There is an impressive consensus amongst educators that, for the most part, where relationships between role encumbents that directly relate to a student's learning are sound, that is, characterised by warmth, mutual respect, a willingness to listen, an openness to ideas, and so on, then learning is likely to be enhanced. A view of curriculum that attempts to elucidate something of its quality might therefore encompass the quality of the relationships in the school'

A crucial problem for the community and its representatives, e.g. politicians, leaders of parents' bodies, is to determine the extent to which they can really make a difference. The teacher is given responsibility for a class, the door is closed and few can know precisely what goes on in that classroom. Teaching has been described as the second most private activity adults engage in! How can the community have a beneficial influence on the classroom interchange of teacher and pupil?

This paper will argue that the community can have a profound impact on the quality of education. It will present findings from some of the authors' recent research on teachers'

careers and educational quality (Hatton, Watson, Squires and Soliman, 1991; Watson, Hatton, Squires and Soliman, 1991).

A major hurdle for school improvement is the high staff turnover in newer suburbs of major cities and in remote rural locations. Teachers prefer appointments in what are perceived to be the more congenial locations to live. They are reluctant to go to many places or to stay for long in such difficult-to-staff places if they do go. And difficult-to-staff schools do not form an insignificant proportion of the total. In NSW, for example, some 40%-45% of students are found at schools in such locations (Metropolitan West and South West and rural inland). This paper will address issues related to school location, staff turnover and educational improvement. Firstly, the nature of good teaching and the basis of teacher satisfaction will be considered. Secondly, the geographical preferences of teachers, the harmful effects of staff instability and the means to increase stability will be discussed. Thirdly, implications of these findings for school and community will be presented.

Good teaching and teacher satisfaction

Like parenting, teaching is a hard job to do well. Good teaching cannot be reduced to simple terms that will operate as a recipe for its improvement. Better skills and approaches cannot be forced on teachers. A teacher can go through the motions of meeting externally imposed requirements but still be teaching very badly. Good teaching depends ultimately on the commitment of the teacher. This is what makes teaching a profession. Furthermore, good teaching is a marathon not a sprint. It requires effort each day for weeks and months to produce a result. The difference between good teaching and ordinary teaching is a subtle one that is not likely to be discerned by the casual observer. As John Goodlad (1984), the leading American researcher in this field points out, good classrooms are different in degree, not in kind. They have more of the qualities that matter: a show of teacher concern, an absence of favouritism, appropriate task difficulty and a good measure of peer esteem. All these add up to create a positive classroom climate. The teacher must care and be seen to care. Good teaching builds bridges to individuals.

The persistent work needed to create teaching excellence is more likely to be produced by a teacher who is high in satisfaction. Satisfaction is the source of motivation to continue to do the many routine but necessary tasks that are required for good teaching. This includes the careful marking of student work, detailed record keeping to monitor progress, thoughtful planning of curriculum and thorough preparation of lessons (Watson, Hatton, Squires, Soliman, 1991). A reasonably satisfied teaching staff is a critical component in any attempt at school improvement. While there are other important factors - both structural and individual - schools are not likely to be improved if there is pervasive dissatisfaction amongst the teaching staff.

It should not, however, be necessary to argue that we ought to provide satisfying work circumstances for teachers. The importance of worker satisfaction has in recent years been

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widely recognised in industry where there have been major changes to promote more agreeable working conditions. If increased worker satisfaction is a major contributor to greater industrial output, how much more important is a satisfied workforce when the output is the education of the next generation? Teachers, like other workers, are entitled to as satisfying a workplace as can be provided.

The difficulty of finding enough teachers and the high turnover of teachers in some areas gives a particular urgency to the consideration of teacher satisfaction. If teaching is to appeal to young graduates, it needs to be seen as a satisfying human activity. Many young people say the most important consideration in choosing a line of work is the need to obtain satisfaction. Satisfied workers are less likely than dissatisfied ones to seek other employment. Strenuous efforts to recruit new teachers for positions that cannot be filled make little sense without equally strenuous efforts to hold those who have been recruited by ensuring they are content with their work. The relatively low salary levels of teachers and the difficulty of matching the financial inducements of private industry makes it the more critical to enhance the appeal of teaching as a desirable profession by providing work circumstances that are as satisfying as possible.

What are the Sources of Teacher Satisfaction?

While wages have some importance (teachers need to receive a fair wage by comparison with similarly trained professionals), teachers have deeper sources of motivation which must be understood and tapped. The research of Watson, Hatton Squires and Soliman with second year teachers in government schools approached satisfaction in two ways. The first was asking teachers, in an open ended response, to give reasons for their level of satisfaction and the second was relating teacher characteristics to their satisfaction level. (All government school teachers in their second year of service were surveyed. A 79% response rate to our questionnaire produced 611 primary subjects and 711 secondary subjects.)

Teachers' Reasons

The central source of teacher satisfaction was found to lie in the human relationships formed at the work place (Table 1). It is the personal and the local that matters most. Most prominent of these was relationships with fellow staff. Mostly they were friendly and supportive, giving young teachers a sense of belonging in the profession. One whose satisfaction was fairly high, said, 'I feel I have become a valued member of staff. I gauge this from the reactions of colleagues and superiors'. Sometimes, however, fellow staff were unsupportive, conferring no recognition. One explained her very low level of satisfaction, 'My only reason is the lack of support, communication and supervision I am receiving from the senior executive'.

TABLE 1: Reasons for Teacher Satisfaction

Response Categories	Positive			Negative		
	Descriptors	Primary n = 580	Sec. n = 678	Descriptors	Primary n = 580	Sec. n = 678
Staff Relations	good, friendly, supportive	37%	40%	poor, lack of support, recognition	15%	12%
Pupil Qualities	cooperative, enthusiastic, achievement evident	34%	31%	uncooperative, difficult, poor achievement, lack of respect	8%	12%
Personal Achievement	good, work competence meeting the challenge	25%	23%	poor, stagnation, not challenging, too demanding, high stress	15%	12%
School Tone	good climate, organisation, discipline, resources	16%	22%	poor climate, administration, discipline, resources	8%	12%
Geographic Location	pleasant environment / climate, not isolated	8%	8%	harsh climate / environment, isolated, much travel	11%	12%
Community Support	high interest, esteem, relationships good, values match those of school	9%	3%	little interest, esteem, recognition, value mismatch with school	7%	5%
The System	helpful, secure, good pay, rewards	2%	1%	unhelpful, no recognition, support, poor pay, career prospects	7%	9%
Private Life	good housing, social, recreational facilities	3%	5%	no housing, poor social, recreational facilities, split from partner	1%	4%

Note: This table reports answers to an open-ended question and multiple categories of response from a single respondent were common. Percentages therefore do not sum to 100.

Almost as frequently, teachers said their level of satisfaction depended on their pupils who were either co-operative and enthusiastic in regard to the learning purposes of the school or difficult and disrespectful. As one teacher very high in satisfaction put it, 'The children are my incentive and my reward.' They either make good progress which strengthens satisfaction or poor progress which weakens it. Watching children change and helping to shape that development is a major source of teacher satisfaction.

Both the recognition of fellow staff and the response of pupils provide feedback by which teachers gauge their own personal achievement which is another important reason for satisfaction. 'Having completed a difficult probationary year I have skills and more confidence which enable me to enjoy teaching more', commented one teacher with a moderate level of satisfaction. Very low satisfaction was often attributed to the heavy demands of the job. 'The work load is incredible. I am expected to spend every minute of my time on school matters. There is no life after school.'

School tone, organisation and resources were also found to play an important part in teacher satisfaction while community support, geographic location and the system (Departmental structures and requirements) play smaller parts in overall teacher satisfaction. It is noteworthy that relationships with the community do not figure as a source of satisfaction for a large proportion of teachers and, when it does gain a mention, it is often negative in its effect. The local community, given opportunity, could play a much more influential role in its relationships with teachers and so contribute more to the quality of education. We shall come back to this important point later. The location and the 'system' are more frequently referred to negatively than positively but are probably taken for granted when positive.

Prediction of Satisfaction

A number of interesting results emerged when teacher characteristics were correlated with level of satisfaction. (All differences reported here were significant at the .05 level). Females were more satisfied than males, the more committed were more satisfied than the less committed, those who felt well prepared by their teacher education had higher satisfaction than those who felt poorly prepared, and those who were given an induction (formal or informal) were more satisfied than those who were not. Furthermore, a formal induction was shown to be more helpful than an informal one. Travelling time to work of one hour or more, predicted lower satisfaction but the adverse effect seems to begin with 40 or 45 minutes travel (each way). The helpfulness of school equipment and teaching aids had a strong positive relationship to teacher satisfaction and availability of inservice courses were also related to higher levels of satisfaction.

Locational preferences and staff stability

The geographic preference of teachers for appointments played a relatively minor part in the satisfaction of teachers in their second year but it seems to play a major part in their long term sense of satisfaction. In the recruiting of staff, schools in different locations do not compete on a level playing field. Teachers have strong preferences for certain locations and seek to leave other areas as soon as possible. A comparison of the first location of teachers, where they would like to be next and where they hope to be in the long term, gives dramatic evidence of this point (Table 2).

In their first appointments, 82% of primary teachers were sent to areas difficult-to-staff (Sydney Metropolitan West/South West and inland). For their next appointments only 27% wish to be in these locations and in the long term only 19% wish to be in such places. A similar pattern is true for secondary teachers. This means that in the difficult-to-staff schools there will be always a high turnover of staff and a large proportion of less experienced teachers.

Table 2: First Teacher Appointments and Future Preferences

	Present	Next	Long Term
Primary (n = 611)			
Sydney city and near suburbs	12%	32%	28%
Sydney west and south west	67%	21%	14%
North and south coasts	4%	30%	43%
Tablelands and mid-west	2%	11%	10%
Inland: western,NW and Riverina	15%	6%	5%
Secondary (n = 711)			
Sydney city and near suburbs	15%	30%	25%
Sydney west and south west	48%	13%	10%
North and south coasts	8%	38%	47%
Tablelands and mid-west	6%	12%	12%
Inland: western, NW and Riverina	23%	7%	6%

Effects of Rapid Teacher Turnover

The effects on schools of rapid teacher turnover are varied and far-reaching, touching the school's administration and programmes, as well as its teachers, parents and pupils. At an administrative level, there is the high cost borne by the system in locating, transferring and settling staff each time a teacher moves. It reduces the time which principals, head teachers and other staff can give to the many other tasks that call out for their attention. The school's educational program is also likely to be adversely affected if the rate of teacher turnover is high. Good collegial relationships are harder to establish and this can affect the delivery of curriculum, the establishment of rapport with pupils, and the operation of participatory school management. Communities are affected too. Not only does high teacher turnover reduce the chances of sustaining co-operative school-community relationships, but teachers' unwillingness to stay in a community's schools may be interpreted as rejection (Hatton, Watson, Squires, Soliman, 1991). The community may become alienated, regarding teachers in general as uncommitted 'tourists', 'blow-ins', unsympathetic to local life and culture.

Of greatest importance are the effects on the pupils. Research has shown a negative relationship between teacher turnover and pupil achievement (e.g., Walberg, 1974). Even pupil self-concept can be adversely affected. The principal of a school with high staff turnover towards the end of the year complimented some third grade pupils on their good work. She said that next year, because all the teachers would want them, she wouldn't know which class to put them in. 'You won't have to worry about it, Miss, you won't be here,' one quickly responded. 'Why not?' she asked. 'Our teachers never come back after Christmas.' The high teacher turnover had not escaped the notice of some of the youngest members of the school community. 'Why?' she persisted. 'It's us kids, I suppose. 'Cause we're naughty.' They even tended to blame themselves! These effects are probably sharpened in NSW by the fact that many of the schools with high teacher turnover are in areas where socioeconomic disadvantage or geographical isolation can also adversely affect educational outcomes.

The Commonwealth Schools Commission report, **Schooling in Rural Australia** (1988), points out that these effects are particularly profound in remote rural schools where the length of time teachers remain in their appointments ranges from two to three years. The Commission argues that increasing this time 'is an essential condition for improving the quality of teaching in remote schools' (p. 156). Notwithstanding the particular demands of remote schools, it is likely that a similar effect would be felt in any school where teacher turnover is high and length of stay short, e.g., Sydney Metropolitan West.

Furthermore, experience (especially the first few years) is likely to improve the teacher's competence. A more experienced staff in general will be a more competent staff. Of course there are times when teachers should move. Too long in a school often produces professional stagnation. But in the difficult-to-fill locations we need a staying-on program for teachers. Not that there's anything wrong with first year teachers. They often bring a freshness and vigour that older teachers may have lost. But when they comprise 20% to 30% of a staff and most of the others are in the early years of teaching, the mix of experience to youth is too lean. Since the effects of rapid turnover are generally adverse and the quality of education is not likely to

be improved without greater staff continuity there is a need to ask how staffing stability can be improved.

Improving Staffing Stability

To gauge the relative importance of 27 reasons teachers give for remaining in a school, we used a multiple regression procedure which linked the strength of the response to how long teachers declare they will stay. This is a powerful technique for determining the most important reasons for staying.

Every item which appears in table 3 makes a significant difference to teachers' length of stay. The order of listing is a rank order of predictive strength of the items. The result is particularly interesting for community groups. 'Acceptance by the community' is prominent on the list for both primary and secondary teachers. For primary teachers community acceptance, accommodation and cultural facilities are the strongest predictors of length of stay. For secondary teachers the support they received from the principal and staff and levels of stress are the best predictors of length of stay but community items, quite similar to those nominated by their primary colleagues, also appear prominently in the list. For secondary teachers, a perceived lack of parental support for education has a marked negative effect on desire to stay.

Implications for school and community

The two strands of evidence which have been considered — teacher satisfaction and staff stability — need to be drawn together and their implications for community action made clear. The importance of a strong and healthy relationship between the school and the local community is evident.

Teacher Satisfaction and the Local Community

Since teacher adjustment and satisfaction depend so much on the personal and the proximal, the local community has great potential to strengthen the hand of teachers. It is notable that:

i) few teachers mention parents or the community as a source of their satisfaction (less than 6% overall) but that;

ii) acceptance by the community is a critical reason that teachers give for remaining longer in an appointment.

These two results placed side by side mean that the great untapped resource for raising satisfaction and increasing stability is the community and parents.

Table 3: Regression of Reasons for Remaining onto How Long Teachers wish to Stay

Order of entry	Teachers' Reasons for Remaining	beta	Multiple R at each step
Primary			
1.	acceptance by the community	25	31
2.	quality of accommodation	18	34
3.	community cultural facilities (music, art, etc)	-11	37
4.	level of stress	-14	38
5.	inservice opportunities	-15	39
6.	support from Principal and staff	13	41
7.	language/ethnic background of pupils	10	42
Secondary			
1.	support from Principal and staff	21	21
2.	level of stress	-18	28
3.	cultural facilities in the community (music, art, etc)	-20	32
4.	degree of personal privacy	12	36
5.	acceptance by community	11	39
6.	inservice opportunities	-15	40
7.	climate and environment	11	41
8.	value of professional contacts	09	42
9.	parental support for education	-21	43
10.	communication with parents	10	44

In the most important sense, teachers are responsible to parents for the effects of their work and they share with parents a very strong interest in the well-being (and foibles) of the children. Yet the line of responsibility from teachers to parents in the NSW system (and throughout Australia) has been and often still is, very long and indirect. We need to develop a sense of community ownership of the school. While ever parents have no say in things that matter at their local school (e.g., selection of the Principal, setting curriculum policy) a sense of community ownership of the school is unlikely to emerge. Without a clear identification of the community with the school, teachers are unlikely to develop a strong sense that they are working on the parents' behalf. This has been a major weakness of the strong centralised control of education which is being broken down now. We applaud governments for policies which devolve responsibilities to the local level while being concerned about the increased demands on staff and lack of administrative assistance which has accompanied their implementation.

The past few years have witnessed some of the greatest changes to the structure of Australian schooling that have ever occurred. The Scott Report, for example, which is the blueprint for reforming the NSW education system, is professing to turn education 'down side up.' Other states are experiencing similar restructuring. But will these changes produce better schools? Current changes offer an historic opportunity for parents and the community to be a greater source of encouragement and work satisfaction to teachers. If public schools are to be improved, there is a need to boost the level of confidence which local communities have in them and to harness the energies and talents of the people in those communities for the benefit of the education of their children. This can be done at a range of different levels from hearing individual children read, to serving on the School Council.

School Councils with significant powers could make a great contribution to the adjustment and stability of staff. For a school council to be successful, the parents and other community members must feel their contribution can make a difference beyond that which the long established parent bodies can do. Their powers need to include an input into the choice of principal and the setting of general curriculum and broad educational policy. Other responsibilities could include management and security of buildings, promoting interest in the school, and assisting in the provision of teacher accommodation. These three are current problems that do not seem capable of solution without enlisting local goodwill and action.

A further avenue for community participation is in teacher induction.

Teacher Induction

Induction refers to measures used to assist new teachers in coming to grips with the demands of the appointment. Induction may be informal (e.g., an occasional chat over coffee) or formal (e.g., a series of structured meetings). Our research found that those who were given an induction had adjusted better to the 'reality shock' of first appointment, to pupil backgrounds and to other non-teaching school responsibilities and were much more likely to be high in satisfaction. A formally planned induction was shown to be more helpful than an informal one and this ideally should be carried out by the local school staff. Assistance, however, from the

employing authority is probably necessary to encourage and support senior teachers in setting up this critical service. Only 12% of our sample received a formal induction, about 51% had an informal one and 37% had no induction whatever. What employing authority would train staff for four years largely at its own expense, then not make sufficiently thorough provision for their smooth transition into the workforce? It is hard to avoid the conclusion that lack of proper induction contributed in a major way to the reasons one in six quit teaching during their first or second year of service (Watson, Hatton, Squires and Soliman, 1991).

Both school and community orientation needs to be provided. The creation of a good fit between teacher background/preparation and the demands of the appointment is the principle upon which induction should be designed. Some teachers who live and teach in a highly familiar area will require little induction to local conditions and expectations (though they will need orientation to school related issues). Most first appointments, however, are not to familiar locations and considerable attention needs to be paid to local aspects of induction, especially for areas which are difficult to staff.

Along with school staff, local community representatives could helpfully be involved in the induction program. Typically, the inductions which have been provided have not assisted in adjustment to the local community and a carefully planned introduction to the local scene - its educational aspirations, its social/recreational facilities and to some of its leaders - could overcome this limitation.

The evidence on staff stability strongly demonstrates that community acceptance is an important element for encouraging a longer stay. A positive early link with the local community can make a profound difference to length of staff tenure as well as to teacher satisfaction and the quality of teaching. In addition to the role of the local community, the wider community has a part to play through its education policy making and politicians.

Education Policy and the Difficult-to-Staff Rural Locations

The urgency of filling vacancies in difficult-to-staff schools means that there is always a danger that policy makers will lose sight of long term initiatives needed to strengthen staff stability and to improve educational quality. As systems give greater scope for local recruitment, it is important to recognize that school areas have markedly different levels of appeal to teachers. Decentralized decision-making will make it harder for the less favoured schools to recruit and hold staff. The pattern of horizontal teacher mobility and a commitment to social equity implies that special policy consideration should be given to increasing the stability of staffing in places with high teacher turnover.

No single solution is likely to work but a combination of policy measures is called for. As well as supporting local induction and professional development of teachers, there is good reason to select new recruits and train them specifically for the locations that are hard to staff (Hatton, Watson, Squires and Soliman, 1991). If teachers cannot be trained in the area to which they are likely to go, even a practicum in that area will significantly increase their willingness to go

(Watson, Hatton, Squires and Grundy, 1987). In addition, a course as part of teacher education on the particular demands of that location is likely to be even more beneficial. For the very remote and difficult places a range of incentives for staying longer seems to be necessary. Incentives which proved to be attractive to the teachers in our research included transfer priority (a points system), provision of housing, lump sum payment on completion of an extended period of service, and greater promotional opportunities.

The turnover problems of some schools will be compounded when the opportunities that devolution provides are not met by an awakening of local initiative to the benefit of education. Rural communities are traditionally possessed of a strong community spirit and have generally learned to place a high value on education but not all have developed the confidence or the competence to take a direct role in the sorts of activities outlined in this paper. The challenge to a government policy of decentralising is whether it can provide and maintain the support structures that are required to assist communities develop the necessary competence, or indeed, whether it can maintain the capacity to act centrally to improve educational quality when local need calls for it.

Conclusion

Finally, in the decentralizing public school systems of the 90s — with local decision-making and responsiveness — there is great scope to make public education excellent. At the same time there is a grave danger that, while some schools thrive, others, lacking the parental initiative or know-how, will wither. As a recent **Sydney Morning Herald** article put it (24.7.91), the 1990s could become the decade of 'the survival of the fittest for schools'. It is therefore critical to preserve a vision and maintain a capacity to act to meet the needs of less favoured areas.

Improving the quality of schooling in rural and remote schools will not be achieved by trivial means. It calls for great political will and long term effort. Furthermore, an informed and persistent lobby is necessary to keep it on the political agenda. Greater staff stability must be achieved by the voluntary preference of teachers to stay for longer, principally induced by the quality of satisfaction they can attain through school and community. Recently there have been very successful staying-on programs for students. In places with high staff turnover there needs to be a *Staying-on Program* for teachers. This should begin in teacher education, continue by induction and inservice support and be sustained by a stronger relationship of community and school. The community can make a profound contribution to school improvement.

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'There will be gain from the pain': Economic Rationalism and the Rural Crisis

Jack Walton, *Rural Education and Research Association (James Cook University)*

Whether or not the expression that forms part of the title of this article was first coined by the Queensland Treasurer, Mr de Lacy, or by the former Federal Treasurer, Mr Keating, I am not sure. The gain that Mr de Lacy was referring to was the ultimate benefit that the public would experience from the Queensland Government's strategy for commercialisation/corporatisation. As Mr de Lacy stated in an address in August to the Institute for International Research Conference in Sydney:

> The strategy of adopting a more commercial focus is urgently needed to lift public sector productivity and lower the costs to industry and the community. As a parting message, I would add that Queensland tax payers can expect to see some significant early benefits from our approach to the forthcoming State Budget.

Queensland is one of many governments, Australian and overseas, who have accepted the theories of economic rationalism. Perhaps economic rationalism can be traced back to Freidmann and the Chicago school which in the late 1960s/1970s emphasised the need to return to monetarism. What this seems to have meant in government terms is a movement towards privatisation. A half way house in the Queensland sense is the development of Government Owned Enterprises (GOEs) as de Lacy stated:

> The aim of the Queensland Government's reforms is to provide incentive, improve public accountability and enhance efficiency. These objectives will be achieved through a package which clarifies objectives and accountability, and removes unnecessary central controls, emphasises bottom line performance and introduces mechanisms to ensure greater competition.

Generally then, the aim is to commercialise or corporatise many government instrumentalities as a means of achieving a better economic performance. Public services such as the railways and health, for example, are already being affected. The changes to the Health Act took effect from July this year and have seen the abolition of Hospital Boards and the regionalisation of health services. Other departments to be affected are the Lands Department and the Department of Primary Industries. The closing of railway stations and goods yards to rationalise the railways has been going on for some time.

Accompanying commercialisation/corporatisation is regionalisation briefly referred to above. Regionalisation, according to Mr D A Shand, the Commission for Review, Public Sector Management Commission involves:

> the devolution of decisions on service delivery and related matters close to the clients by devolving responsibility to regional and local offices. Thus an important thrust is devolution of authority from Brisbane head offices.

Mr Shand later went on to indicate that one of the aims of regionalisation was to locate services closer to clients. He made a point of mentioning initiatives that represented services being provided to people outside the south east corner of the state, services which had not previously been received by them.

Commercialism/corporatisation and regionalism had been and are particular thrusts of the present Queensland government. Of the former, it should be noted that the government does not separate Community Service Obligations (CSOs) from the commercial activities of GOEs. It is with CSOs that equity objectives are often associated. We have then a government attempting to streamline its public service and make it more cost efficient and at the same time build through regionalisation public services near to the people who benefit from them. These are some of the assumed gains. What about the pains?

I interviewed four Shire Clerks from western Queensland towns to get their impression of the present and future impact of these changes upon their towns and shires. Three were from the small communities of Miles, Mitchell and Hughenden, and one from the larger town of Longreach, which is more of a regional centre than the other three.

Longreach, well known for its Hall of Fame, holds a central position in the North West Education Region. Longreach services, largely, a sheep rearing area and, as compared with the other three towns, has not the same fears of service cuts of various kinds. Perhaps one injustice which does rankle is the transfer of the Regional Education Centre from Longreach in the centre of the North West region to Mt Isa on the northern boundary. This appeared to many people a most inadvisable move. In the impact study that was undertaken it was stated:

> The direct effects on the social structure of Longreach include thirteen people being placed on the job market (0.6% of the workforce), 27 people moving out of the town (0.67% of the total population) and nine children lost from the local population (1.4%).

Rural towns have a delicate infrastructure. Such a relocation of public servants as referred to above means a loss of $696,000 in salaries to Longreach apart from other flow on effects. Whilst a larger and more central rural town such as Longreach may be able to absorb more easily relocations such as these, the impact on small towns or rural towns is much more noticeable.

Hughenden, Mitchell and Miles are smaller and do not have the regional status of Longreach. There is a perception in these towns of the disappearance of services to regional centres and a

decrease of input of local people into the management of services. Closure of railway stations with their attendant services, closures of Clerks of the Court offices, modification of the ambulance service and, in certain places, the reduction in Main Road funding are just some of the developments that, taken together, are perceived by the towns people to be quite catastrophic. As one Shire Clerk stated:

> The more severe influence will be the fact that people now have to go to another town to find these services. Probably that has a greater impact upon the business community simply because the pricing over there is probably somewhat more attractive. The range would certainly be so. Whereas they wouldn't drive there specifically in lots of cases to buy one or two items, if they are there they certainly will buy more there and that will hurt the local businesses. People become very bitter. They see themselves as scapegoats.

Closures of services also means that a population drift from the small rural towns takes place and with them goes the wages they earn. One of the Shire Clerks referring to railway cut backs estimated that a loss of 30 people, using a multiplier of three, would represent a loss of over a million dollars turn around in the town's economy. The Shire Clerk of Hughenden felt that as a result of the railway closures there could be 250 people less in the town in twelve months time. As local government funding is related to population size the financial losses associated with the population drain is exacerbated.

However, it is not just the loss of services and the economic impact that this loss has on the small town at the moment, it is what is going to happen in the future. Towns affected in this way will be less attractive to future residents and business people. Once the population starts to decline, for the reasons given above, there is every possibility that that decline will continue. For the people living there the outlook must be rather depressing. As one Shire Clerk stated:

> If you take each change individually it doesn't seem to be very great but cumulatively the changes tend to take away the individuality of a town. A town is a unit and people work together and pull together and see themselves as a community with a community of interests and a community of purpose. You take away some of this involvement and people no longer see the hospital as their hospital with a local board assisting with some of the running. They no longer see the ambulance as their ambulance which they have been chipping in over the years to keep operational - whether by selling a beast or by putting in a tonne of wheat. No longer is it their local scene.

One of the other Shire Clerks interviewed supplemented these general observations with more specific examples:

> There has been a total change in approach so far as the control of different organisations is concerned. Take the Fire Brigade, for example. The local control has been taken away, but the Council has still to collect the levy for the State Fire Service. The Hospital Board has been abolished and the control now

> is completely at Toowoomba. The local ambulance is no longer the Queensland Ambulance Transport Brigade but the Queensland Ambulance Service, and the local committee is to be abolished. They are going to have some sort of local input body, but it is certainly no longer a controlling body. The railway is still in a state of flux in that the small freight service is no longer going to operate from Miles but from Chinchilla. The freight truck will deliver from Chinchilla and will drop to Miles, Wandoan and other centres. So Miles will probably be losing the small freight centre.

If this involvement of the community is decreased people begin to lose their civic pride. The quality of relationships tend to decrease. Much has been written about the quality of relationships in rural communities. As Squires indicated in a paper given to the 'Think Tank' on Research into Rural Education in June 1991 in Townsville, two concepts developed by Tonnies over a 100 years ago are still appropriate. These concepts, *Gemeinschaft* and *Gessellschaft* are relevant to this discussion. *Gemeinshaft* implies primary relationships - relationships based on kinship, friendship, neighbourhood, common beliefs and common interests arising out of the complex activities of the community. In contrast *Gessellschaft* suggests second relationships and is characterised by impersonality and contractualism. It is the primary relationships of *Gemeinschaft* that exist in rural communities. It is these relationships most essential to the health of the small rural community that could be shattered by the changes already taking place or envisaged in the future.

The Australian of 12 July 1991, in its comments on The Pacific Regional Science Conference in Cairns, referred to a study by the Victorian Government Office of Rural Affairs in 1990, 'which found that small towns were very vulnerable to rapid change in government policy and warned of the harmful 'spiral effect' of the removal of a single service'. Dr Phillipa Hudson and Professor Rod Jensen at the same conference, referring to their study of seven remote towns in northern Australia, indicated that:

> Government activity can through indirect multiplier effect and through the creation of the optimistic local environment, play a crucial role in influencing the future of remote towns.

As far as people in small rural towns are concerned, economic rationalisation is not greeted with open arms whether it is initiated by the state or federal governments. Telecom, one of the Shire Clerks indicated, has probably been the single largest withdrawer of services and personnel from his Shire. When Telecom was approached, the reason they gave for the cut-backs was 'economic efficiency'. These, stated the Shire Clerk, 'are terribly cruel words for the Shire because everything is done in the name of 'economic efficiency'. There seems to be no recognition of some sort of social responsibility at all'.

The present government in Queensland, as stated earlier, appears to have accepted the economic rationalist approach. However, it is also concerned with social justice. Perhaps it should understand that social justice for the small rural towns of Queensland cannot be measured in terms of performance indicators and accountability. These towns are vital communities which perceive the community spirit being decimated by the present and

forecasted changes which threaten the towns' future at a time of severe downturn in the rural economy. This is the intangible factor that perhaps planners forget. As one Shire Clerk put it: 'It is, I suppose, a lack of confidence. I mean who wants to come to a town that doesn't provide basic services?'

Another sadly stated:

> Everything that is happening at the moment reduces the will of the people to fight because of their concern for their own survival. They just haven't got the energy to fight these other matters.

Whatever the gains that may accrue from commercialisation/corporatisation and regionalisation, people in the smaller rural towns at the moment perceive no benefit. There is a lot of pain, but no gain.

The Northern Territory Primary Assessment Program

Huang Zheng Sen and Pascale Dixon, *Northern Territory Department of Education*

Summary

The Primary Assessment Program (PAP) monitors achievement in English and Mathematics at Years Five and Seven in urban schools based on the requirements of the curriculum at these year levels. All students in Years Five and Seven are tested in reading and mathematics each year. The tests are constructed by teams of teachers and office-based staff. Writing is assessed by moderation of teacher assessed sample scripts sent in from schools.

Each school receives the results of its own students and the Territory results by confidential arrangements. Diagnostic information is extracted for use by both the school and system to assist student learning as well as evaluate certain aspects of curriculum content and processes. Analysis of performance between administrations is also carried out to examine changes and observe trends.

A similar program operated in Aboriginal schools. The essential difference is that the urban program measures achievement on the total curriculum whereas the Aboriginal program measures achievement on the core objectives which are essentially basic literacy and numeracy skills. A multi-level test is used for reading and mathematics in Aboriginal schools.

Introduction

The origin of the NT Primary Assessment Program (PAP) dates back to 1982 when the release of results of NT students in a national testing program (Australian Studies in Student Performance Project) triggered a vigorous public debate on standards. A system-wide testing program on the basic skills was introduced in urban schools for Years Five and Seven in 1983. Until 1988, the tests in reading and mathematics were based on the core objectives defined for these year levels. The shift in focus in 1988 from assessment of performance on the core objectives to assessment on the total curriculum in English and Mathematics marked a significant turning point in the history of the program. Since then the PAP has moved towards measuring what students are expected to know across the whole curriculum. It also incorporates in its test construction what and how the curriculum is taught in these two subjects. In this sense, the PAP tests have high curricular and instructional validity.

Prior to 1988, the assessment of achievement was based on minimum competencies (core objectives) for reading and mathematics in Years Five and Seven. As the minimum competencies were pitched at relatively low levels, the majority of students 'passed' the tests in which the passing scores were 70% correct for reading and 80% correct for mathematics. It was not suprising that generally students did not find the test challenging enough and many did not take them seriously. Teachers did not find the tests helpful in their classroom work. Except for identifying children at the bottom 20% of the scale, the program did not appear to have a useful purpose at the classroom level.

It was obvious to both the test administrators and classroom teachers that the tests did not have sufficient relevance to what was going on in the classroom.

A similar system-wide assessment program was introduced in Aboriginal schools in 1986. A major distinction between the urban and Aboriginal programs is that the test contents in reading and mathematics for the latter are based on the core objectives. Until 1990, the testing program for Aboriginal schools was based on the core objectives, ie minimum competencies expected at Year Five. In 1991, multi-level tests in both reading and mathematics were introduced which allow core objectives at lower levels to be incorporated.

The tests for the Aboriginal program are written by teachers and staff who have taught in Aboriginal schools and the materials produced are considered to have meaning and relevance for Aboriginal children. A lot of care is taken to remove elements in the tests that appear to be culture-biased. However, it is generally recognised that no achievement test that measures learning is absolutely culture-free and there is some argument as to whether a test can be.

The tests in reading and mathematics for urban and Aboriginal schools are administered annually. Students' answer sheets are returned to the Curriculum and Assessment Division for processing and analysis and results are issued to individual schools by confidential arrangements. A public report giving the Territory results is published but it does not contain results of individual schools. Areas of strength and weakness across the Territory are highlighted in the public report. The findings have been very helpful to subject specialists, subject area committees and curriculum writing teams.

Nature of the materials

One of the components of the PAP - the writing moderation exercise, has been conducted in urban and Aboriginal schools since the mid eighties. Schools are asked to return samples of students' writing from two genre, eg argument and explanation in accordance with procedures outlined in advance. The samples are examined by a team of experienced teachers and graded as showing 'high', 'medium' or 'low' competence. The results are produced in a booklet which contains a checklist of 'descriptors' for assessing quality in key aspects of writing and includes samples of students' work showing grades and annotated comments.

There are two types of reading comprehension tests: a series of tests based on selected prose passages and a series of tests measuring basic or functional literacy. The first type is fairly demanding. The passages are taken from texts recommended for reading at the respective year levels; the tests measure both literal and inferential comprehension and several questions are included to test high ability skills. Both multiple-choice and open-ended format are used.

The second type of reading test called reading for different purposes test (RDP) is based on materials likely to be encountered frequently, eg an advertisement in a newspaper, a guide on walking tracks at a popular tourist destination (eg Katherine Gorge Walking Tracks), etc. These tests are intended to measure basic functional literacy. A news sheet is employed containing various pieces of information and questions are set on these.

Teachers are asked to allow sufficient time for students to complete each of the reading tests. Times recommended for completion are indicated.

The mathematics tests for Years Five and Seven in urban schools, like the reading tests, are based on the total curriculum. Each test is timed. Questions are set in both open-ended and multiple-choice format. For Aboriginal schools, the mathematics tests are based on stages Three and Four of the WA mathematics curriculum approved by the Board of Studies.

The tests in mathematics included tasks covering these areas: space, measurement, and number. Within each of the areas, students are presented with tasks which require them to recall basic facts, compute, demonstrate an understanding of various concepts and mathematical ideas and apply them in solving problems.

For generating items, a test specifications chart is employed. Each item that is created is keyed to an instructional objective or entry in the syllabus. The item is related to the content as well as to how the objective is taught. The chart provides a mechanism for checking the number of items produced for each content area and for each type of ability or skills involved. It is worth noting that more than half the number of items in the mathematics tests measure understanding and application of concepts. Only a few questions measure recall of basic facts. The direction of testing is towards tapping higher order skills.

Prior to assembling the final forms, the questions are field-trialled in a sample of schools and subjected to an item analysis to improve their quality. Each question is checked for relevance to the content area; indices of difficulty, discrimination and reliability are calculated based on traditional test theory. Some items are discarded without any further work done on them; many require some modification after the review by the test writers. The various procedures employed in the item analysis are designed to ensure that the tests are valid in terms of their relevance to both the syllabus content and classroom instruction, that they are reliable and that they discriminate well between students who are able and those less able.

As outlined below, the results of Northern Territory students on the tests are reported and sent back to schools after the completion of the program each year. A significant spin-off from the testing program is the availability of data regarding performance on individual questions. For

each item, information is available regarding what the item measures and what proportion of Territory students has answered it correctly. These data are useful for reference when teachers administer the same tests to other groups of students or assemble their own tests by selecting items from the test collection.

In addition to the tests employed in the annual testing program, schools have been provided with subpools of practice items in mathematics. Each question has been classified in terms of the specific syllabus entry, skills or ability involved and its difficulty level.

Reporting of results

Every year by confidential arrangements, each school receives the results of its own students as well as the Territory results on each test. At the same time, students' answer scripts which were sent in for data input and analysis are returned to the school.

Three types of statistical reports are generated for the school and the system which show (1) percentage correct on each question, (2) distribution of test scores and (3) means and standard deviation for subtests.

An analysis is done to compare performance year by year. This is carried out by using 'link' items as in mathematics, or repeating a sample of the same tests as in reading.

Report No 1: Percentage Correct on Each Item

This report provides data showing percentages of students answering each question correctly for the school and Territory cohorts respectively on each test.

The items are ranked in order of difficulty for Territory students. The report has been found to be particularly useful in identifying areas of strength and weakness within the cohorts as well as providing some assistance to curriculum developers.

Report No 2: Distribution of Test Scores

This report shows the raw scores and percentages obtained by individual students on each test in a particular school. The distribution of scores for Territory students is also provided for each of the tests. The report enables a student's status in relation to the Territory population to be readily determined on any test.

Report No 3: Means for Subtests

In this report, the means and standard deviations for subtests within each subject are generated

for both the school and Territory cohorts allowing comparisons to be made. The report enables the school and the system to identify specific areas in the curriculum which may need further attention.

Concluding remarks

The program is oversighted by the Primary Assessment Committee of the Board of Studies. Changes to the Primary Assessment Program are continually being made in response to recommendations and suggestions received from principals and teachers. The program has won wide acceptance and recognition in NT schools in recent years and has been endorsed as a project of national significance by the Australasian Cooperative Assessment Program (ACAP), a national committee sponsored by the Conference of Directors-General.

The program had a controversial beginning. It was initiated by the NT government in response to a public outcry about standards triggered by a report published in 1982 which revealed that NT 10-year-old and 14-year-old students had performed poorly in a national testing program. A Working Party recommended an assessment package comprising a series of tests for reading and mathematics, moderation of students' writing and a checklist of practical strategies for assessment of reading (such as library reference skills) which could not be validly and adequately evaluated using written tests. The development and implementation of the package was a mammoth operation, but the tasks were completed in a record time of ten months in 1983. The rest is now history.

On hindsight, the Working Party is to be credited for its conceptions of an assessment package that appears to be sound and balanced. The Primary Assessment Committee of the NT Board of Studies which took over the functions of the Working Party in 1985 oversees the program and maintains a vital communication link between the system and schools.

Each year more and more teachers offer their expertise and services to work on the test development side. School participation rates have increased substantially; for the urban program, the participation rates in 1989 and 1990 were one hundred percent. The PAP results are being used increasingly by schools to complement other school-based assessment measures.

The results of individual schools are confidential and are returned to the schools to be analysed and interpreted at the school level. There is a real danger of misinterpretation and of the harm which this can cause if individual school results are made public. Even though results of individual schools are not compared, schools are free to make use of their own results. As a precautionary measure, schools are advised that if results are published by the school council, this should take place only in the context of reports about the school as a whole. The report should be fair to the work done by the school and take account so far as possible of socio-economic and other influences that may affect results.

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Instructional relevance and content validity are key to any meaningful use and interpretation of test scores. In the PAP, a great deal of time and effort is devoted towards ensuring that the test materials match the curriculum objectives closely. Students are likely to warm towards tests that reveal what they can do and at the same time are interesting to work through. This calls for imagination and creativity in test generation and over the years, Territory teachers have shown that they are equal to the task. The Primary Assessment Program results are not used in isolation but in conjunction with other assessment strategies devised by the classroom teacher. In combination with other classroom assessment measures, the PAP is likely to play an increased role in the future in monitoring student achievement across the system and in assisting to improve learning outcomes at the classroom level. Its impact on the curriculum is likely to be sustained as there is strong support from schools and the community for the PAP.

Teachers' duration of placement in three Queensland regions: A discussion paper

Paul Loney, *Department of Education, Queensland*

Considerable community and professional concern prevails regarding the perceived comparative brevity of tenure of teachers in rural schools. This discussion paper attempts to provide statistical data, some commentary and other opinion on the issue. Its purpose is to assist in attracting further research support for this theme and to inform the Country Area Program, distance education and the open access policy. Such research could examine the educational advantages of increased teacher placement stability in rural areas and strategies which may enhance such stability.

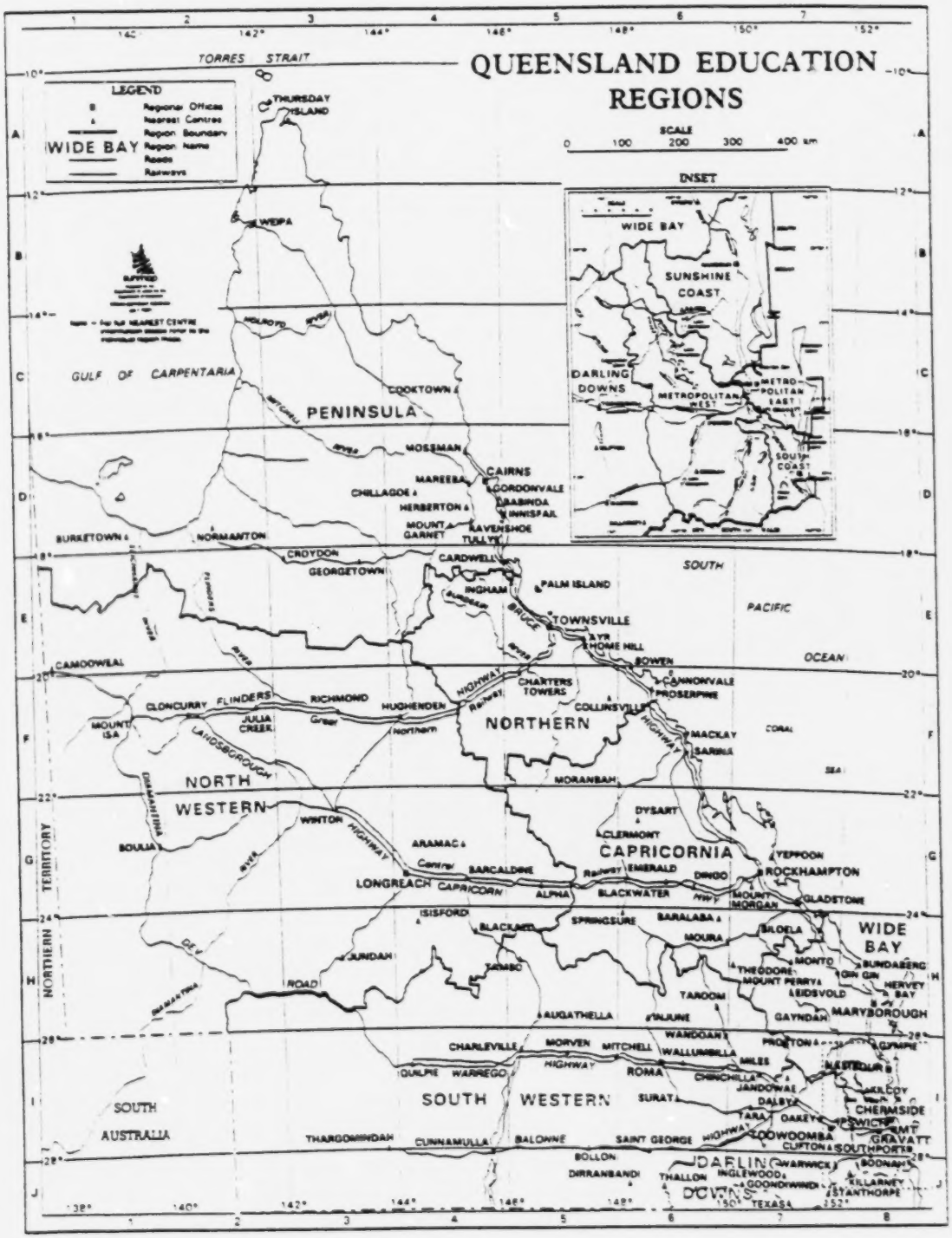
A brief overview of teachers' duration of placement in three Queensland Department of Education regions is undertaken. They are: South Western, North Western and Sunshine Coast regions (See Figure 1). These provide contrasts of isolation, climate and apparent attractiveness. Overall, the examination of such data may confirm or modify perceptions of teacher turnover and its possible impact upon rural education outcomes.

Selected Literature

The 'Quality of Education in Australia' Review Committee noted in 1985: 'rapid teacher turnover in rural areas as a significant concern' (p.148). Queensland Education Minister, The Honourable Paul Braddy, noted the desirability of 'continuity' at the 'Think Tank' on Research into Rural Education (p.62). He said, 'Currently, one of the major reasons why some teachers are reluctant to teach in these areas is that living is simply more difficult in these areas. What we are endeavouring to do is make life easier for teachers in remote areas and this will be done through providing either a cash or a non cash benefit. If more teachers are available to teach in these areas, then the standard of teaching is bound to improve. Ideally, teachers and principals should be staying in remote areas for a longer period, so there is greater continuity in the education of the children'.

In 'Schooling in Rural Australia' (p.139), the challenges to teachers are outlined: 'These involve their living circumstances, their relationships within the communities, the professional tasks assigned them in small schools, the level of professional support available to them, the financial implications of short-term or long-term service in remote schools, restricted access to their families and friends and the educational and social needs of their children'.

Figure 1: Queensland Department of Education Regions



Additionally, sets of community expectations may be placed upon teachers:

> Teachers should be enthusiastic about their task, well-educated and possess a range of teaching skills. As well, they should understand and be able to relate to rural communities and have a sufficiently broad grasp of their area of professional expertise to be able to integrate community interests and values and locally relevant materials into their teaching. Teachers should live in the local community rather than commute to it from a nearby centre and they should participate in local organisations and contribute to community life. They should act as appropriate role models for young people in the local area maintain appropriate standards of behaviour, both professionally and socially. Given that many teachers appointed to rural schools are young and relatively inexperienced and will have grown up and undergone teacher education programs in an urban environment, it is not surprising that many find that meeting these expectations can be a difficult task.

Already a picture is being painted of rural teaching as a daunting task. Expectations, challenges and pressures all in a setting of isolation and withdrawal from familiar sources of support and social interaction.

The Postle, Crowther and Walton report 'Needs Analysis of the Priority Country Area Program in Queensland', (p.8) highlights these issues in their findings that parents in rural areas are particularly concerned with:

- the preparation of teachers to teach in rural areas;
- the need for more experienced teachers to remain in rural areas;
- the length of time teachers spend in a rural school, and
- a significant number of teachers who indicate little interest in rural communities.

The Queensland Council of the Isolated Children's and Parents' Associations lists in its Policy Statement (June 1990, p.6), a range of objectives which recognise these needs and challenges:

- that teachers appointed to Distance Education positions be given appropriate induction courses, staff development programs and follow up inservice courses;
- that highly skilled teachers with a commitment to teaching in remote areas be appointed to remote schools;
- that teachers and administrators in remote schools have access to regular inservice courses;
- that suitable accommodation be provided for all teachers in remote schools;
- that an on-going program involving development of instructional techniques and materials be implemented to assist staff working in remote areas, and

- that positive incentives be given to attract teachers to remote high schools to ensure continuity of subject courses.

So there is a widely held perception that rural areas have high teacher turnover, that this is undesirable and that a range of measures should be taken to promote teacher stability.

Looking at the facts

Queensland' s Department of Education Western regions are frequently cited as having high teacher turnover. South-Eastern locations, on the other hand, notably the highly sought after Sunshine Coast region, are cited as having low teacher turnover rates. Is this the case and to what extent?

The series of figures presented are based on data collected since 1975. Figure 2 shows that teachers' average days of service across the regions do not differ that markedly. This may be explained by there being more occupational and locational alternatives in Sunshine Coast region. There, moves to nearby regions, non-government schools and non-teaching occupations such as small business, are much more readily available.

FIGURE 2: Average days in service for teachers who were once in the region

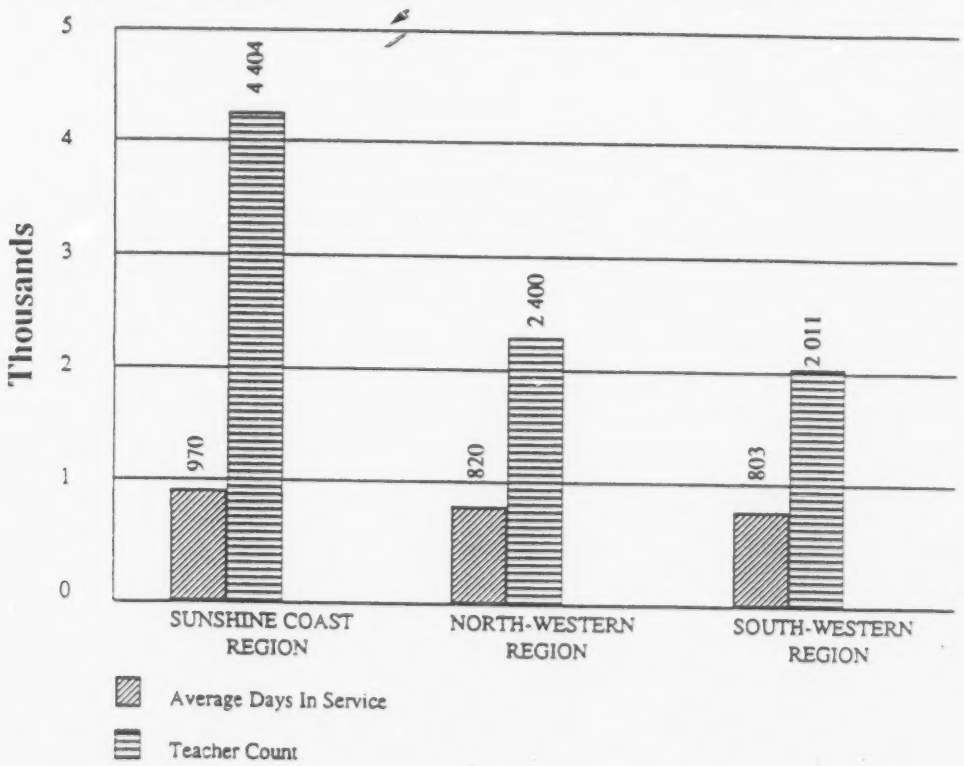


FIGURE 3: Average days in service in a particular school

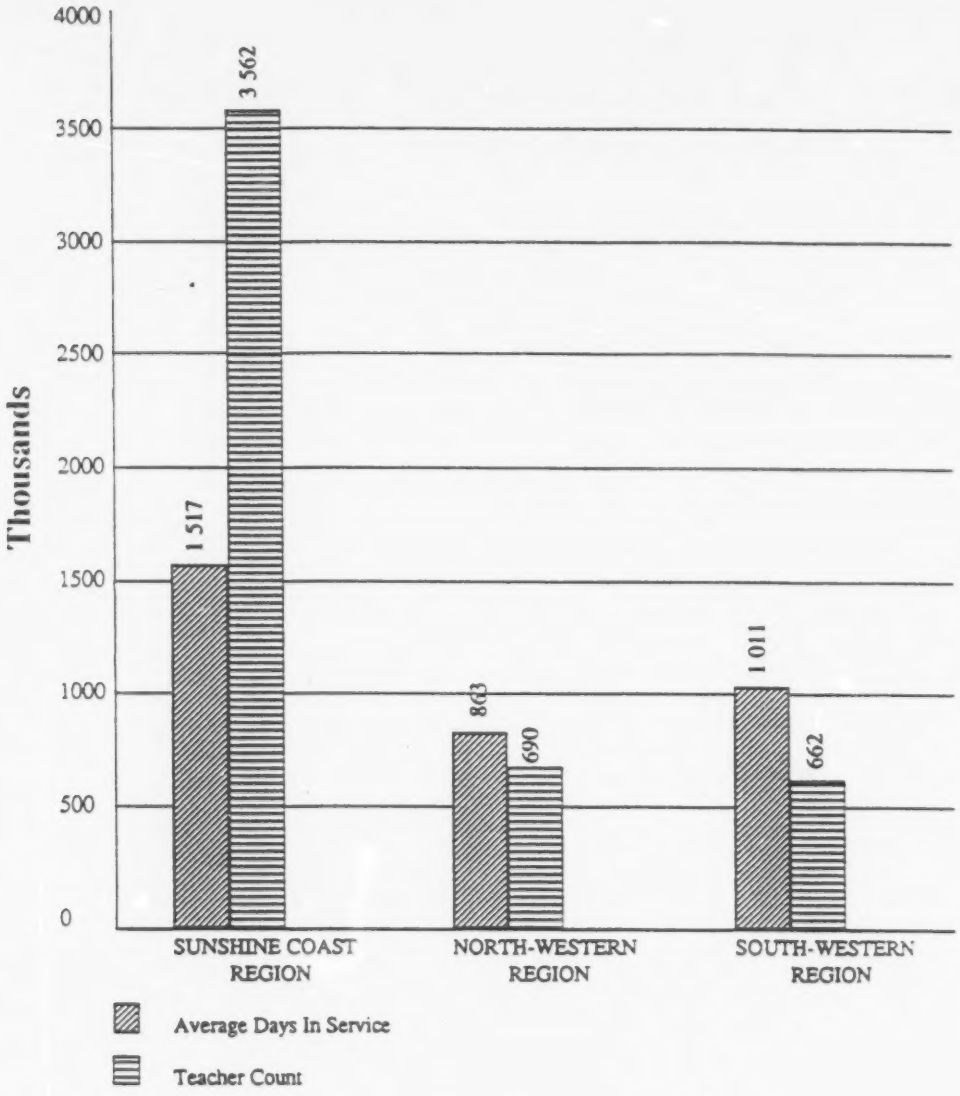


Figure 3 displays average days of service in a particular school. Here we see that greater length of service is evident in the Sunshine Coast. However, the gaps may not be as large as expected with the South Western region showing the average service in one school at almost three years. The stark isolation of many North Western schools reduces its figure to 863 days, still well over two years. One factor in reducing the Sunshine Coast figure may be the movement of younger teachers to facilitate the incoming of promoted and other teachers. Some recent graduates may serve for one or two years before possibly going North or West. South Western region shows longer service than North Western, possibly because it has larger centres and is less remote from Brisbane and the coast. The average arrival age of teachers in Western regions shows that they are, on average, of five years teaching experience. Predictably, returning teachers raise the average arrival ages for Sunshine Coast region.

FIGURE 4: Teacher's average ages by gender on arrival and departure

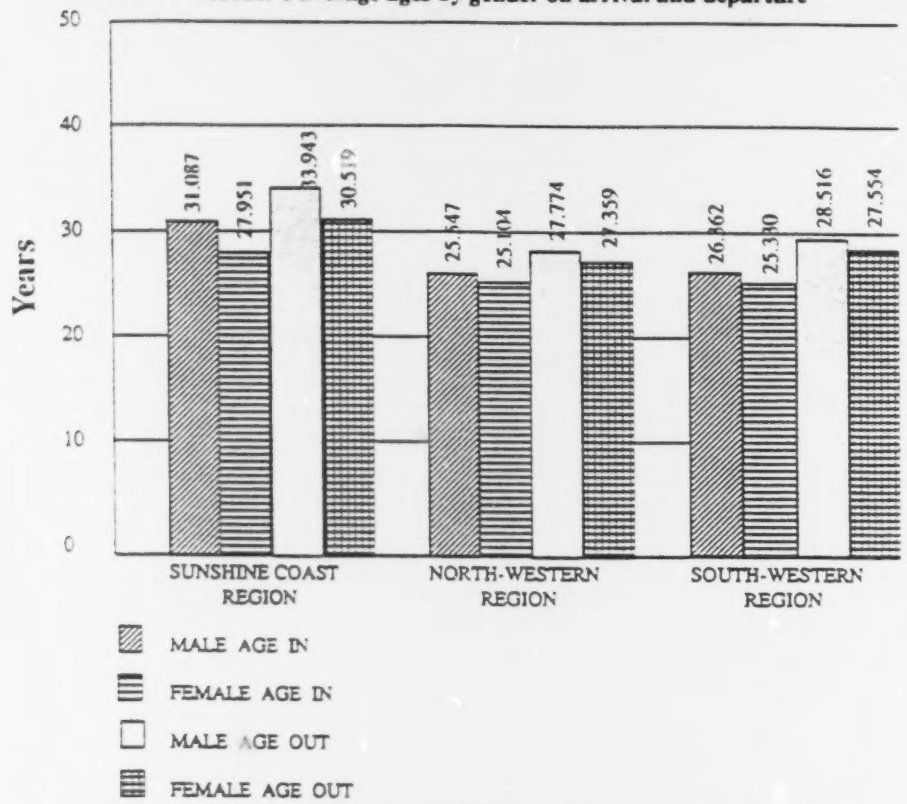
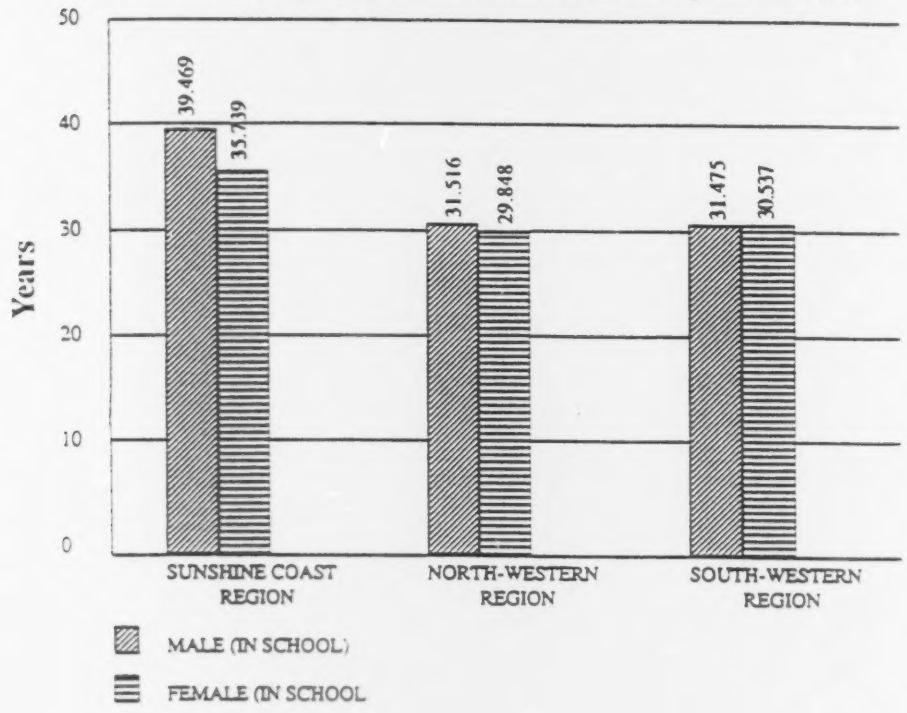


FIGURE 5: Average ages by gender of current teachers in a particular school



The populations considered here are teachers based at a school within the region NOW.

In recent times new graduates may have been more likely to accept rural positions thus reducing the average arrival age in Western regions. The higher arrival ages in Sunshine Coast region reflect the return to the coast of teachers usually planning to settle. This, as previous figures show, does not necessarily mean to settle into teaching at one (or any) school for an extended period. Females have an earlier arrival age in this region, possibly reflecting what has been a perceived unsuitability of some rural locations for women. There is evidence of females' greater preference for a return to the coast.

However, females settling at the coast may then have chosen to resign if that settling involved parenting. This is less likely today with more flexible leave options being available. In considering the average ages of teachers by gender in a particular school, the similarity in the Western regions is clear.

Which regions show greatest percentages of their teachers requesting transfers? To which region do these teachers wish to be transferred?

FIGURE 6: Applications for transfer out of region

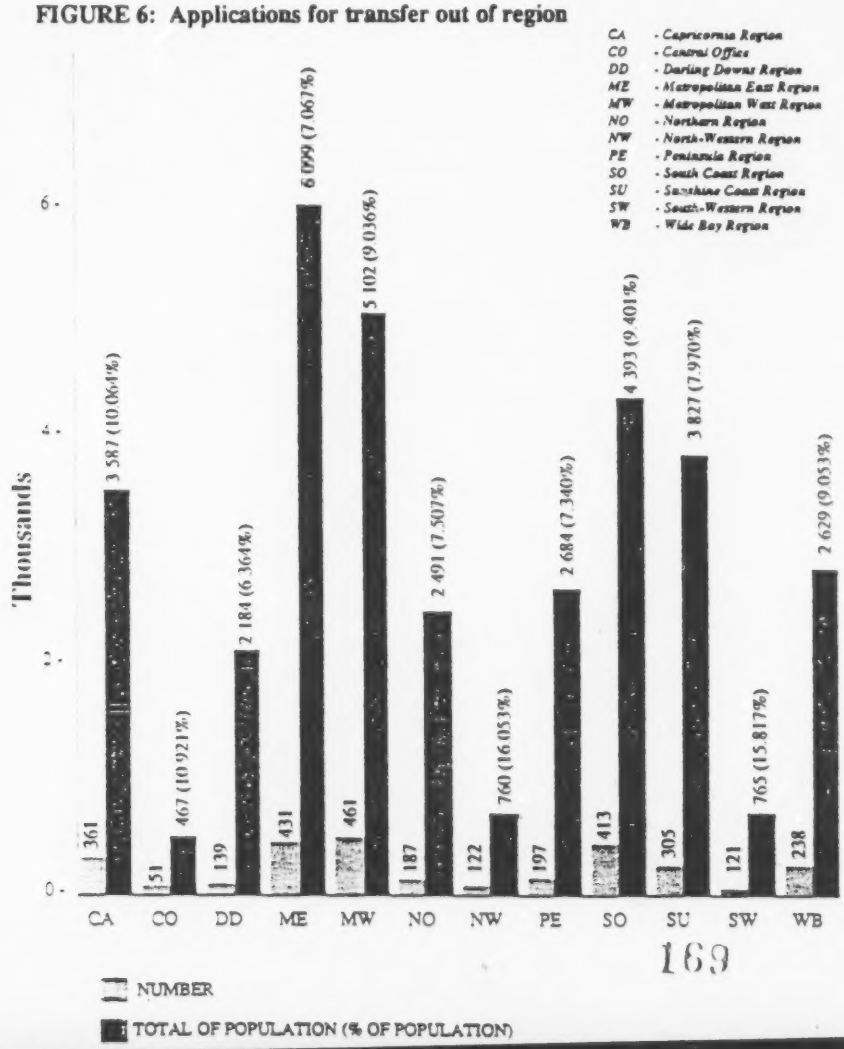


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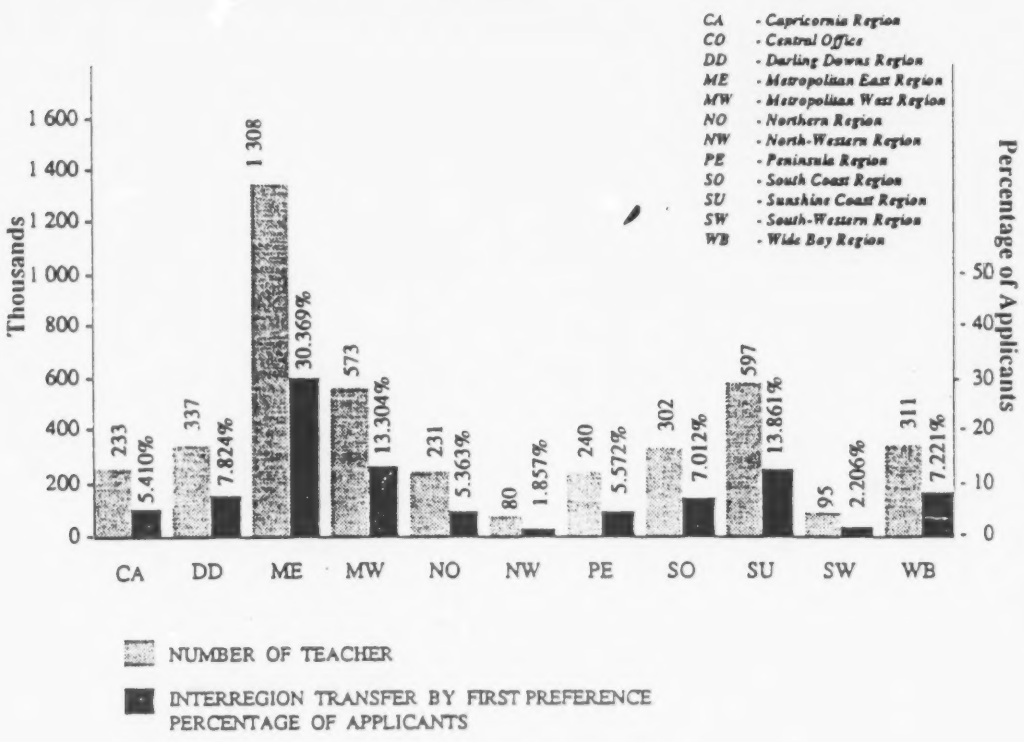
Figure 6 does not surprise in showing that 16% of North-Western's and almost 16% of South-Western's teachers requesting such transfers, yet this is lower than one teacher in six. The 'CO' line refers to the exceptional case of teachers' relocation from Central Office associated with the Department's restructuring. It is interesting to note the similarity of percentages requesting transfers across contrasting regions - Capricornia, Metropolitan West, South Coast and Wide Bay - all at 9%-10%. The lower figures of Darling Downs, Northern and Peninsula cover substantial numbers of rural, indeed isolated, schools.

The most sought after region is Metropolitan East (see Figure 7). This reflects not only its ready access to capital city services and coastal attractions, but its immense family and social connections for so many teachers. There is an important 'coming home' factor here along with the region's wide variety of school types, sizes and curriculum emphases. The much smaller Sunshine Coast region is second most popular. Yet as we have seen, this does not assure a proportional level of teacher placement stability. The expected gender balance in teachers is approximately 2:1 female:male. The ratio requesting North Western region is 4:1.

FIGURE 7: Interregion transfer by first preference



What are the reasons for this?

Almost the same pattern is found for Metropolitan West. Peninsula region on the other hand seems to be most attractive as a destination for males.

Conclusion

Educators readily acknowledge that sound outcomes are more likely with certain levels of teacher placement stability. Perhaps more significant is a practice of active teacher identification with the school community. A long term teacher in an urban setting does not necessarily closely identify with the local catchment area. If the rural call is for a continuity of teacher relationships with students it needs to be remembered that this is not always experienced in urban settings. The larger primary school usually means a different teacher every year - the norm anyway, across years and subject areas, in secondary schools. In a small rural community the impact of a shorter teacher stay is more noticeable. The departing teacher may have been a dominant participant in local matters. So, even though it may not be shorter than, say, an urban school period of service, it may seem a lot shorter. The often more personal and community-minded rural location is quite sensitised to alterations in its group network and social structure. We can observe that the comparatively prolonged stays in Western regions may result from a lack of local employment options. However, the opposite is the case in the Sunshine Coast Region and consequently teacher turnover is higher than might be expected.

Rural Principals of small schools are usually in service there for at least two years meaning that in the case of a one-teacher school it is unlikely for a child to have more than four teachers during the primary year. The larger primary school usually affords seven different teachers over seven years. Indeed there is a view that a change of Principal in a one teacher school after a three year period may have benefits for all parties. Certain urban schools experience much higher rates of requests for transfer than those of the Western regions. Requests for transfer from rural regions are not uniformly high. Nor are requests from well-serviced South East Queensland regions such as Metropolitan West and South Coast, particularly low. The accuracy of public perceptions of regions 'relative attractiveness' is, at best, erratic. The same may be said, but even more so, of perceptions of teacher turnover in relation to contrasting regions.

Summary

- Rural schools do not necessarily experience reduced educational outcomes as a result of higher teacher turnover;
- Larger urban schools may show deficits in the quality of student-teacher relationships even with lower teacher turnovers;

- Two to three year periods of service in rural schools are not necessarily disadvantageous educationally. The enthusiasm and vigour of younger teachers may more than outweigh the perceived advantages of having longer serving teachers in rural schools.

- Coastal/urban schools do not enjoy as low teacher turnover as may be publicly perceived.

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The patient assistance of Julianne Zimmermann, Cheryl Kerr, Margaret Pethiyagoda and David Ham is gratefully acknowledged. My special thanks to Margaret LeMaistre and Letitia Hoppner.

Creativity in Crisis

Glenn Roff, *Catholic Education Office, Canberra*

There is an old Chinese curse: *May you live in interesting times*. We are certainly living in interesting times - the word 'crisis' is not an overstatement. As Nola Lippert said in her recent report 'Rural Australia is Hurting':

> Australia is in the grip of a rural recession, some would say depression, comparable to that of the 1890s.

She went on to tell how:

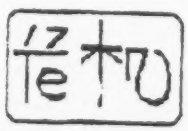
> the combination of a slump in farm commodity prices, high interest rates which approached 28% when bank charges were taken into account and a crippling drought over much of the continent have placed enormous stresses on the financial, social, physical and emotional resources of many rural families and their communities.

and

> while considerable media attention has been directed to the economic aspects of the recession, very little if any attention has been given to the personal and social carnage of this economic phenomenon.

Looking at this issue and its impact on the human psyche, I believe we need to examine this 'interesting time' from the viewpoint that crisis elicits a challenge and that in times of crisis we need to 'drink deeply from our own wells' (as the South American writer, Gustavo Gutserrez put it).

The word for crisis is



(pronounced Naygaye)

There is wisdom in the construction of their word. Interestingly it is made up of two words, two calligraphy characters, which together mean crisis

(pronounced Nay)

means danger on the one hand, and

(pronounced Gaye)

means opportunity on the other.

The challenge therefore is to look for any opportunity and good that presents, and not be paralysed by the dangers or drawn into self fulfilling pessimism. We need to keep clearly in our minds that the greatest gift we have is ourselves with all our enormous capabilities for meeting any challenge. We need to be people of faith (in the broadest sense).

One of the most obvious tensions in the early years of what was the Disadvantaged Country Areas Program (DCAP) was that between extending the vision of students by taking them out of their environment (excursion) and deepening the appreciation of students of their existing resources, i.e. geographical, historical and human. It was a contention issue and one in which the SAG (State Advisory Group) in New South Wales challenged the transposition model.

It was quite fascinating and not altogether surprising that the longer one was associated with a particular country region the more one became aware of its riches. I was Deputy Chairperson of the North West New South Wales Management Committee and I can still recall first hand experience at pleasure at:

- the Aborigines who recalled their tongue and their traditions;
- the lure of opals at Lightning Ridge;
- the serenity of some of the places Lawson wrote from and about;
- the hazards of Thomas Mitchell's early journeys;
- the area that was apparently the model for some of Colleen McCullough's descriptions in 'Thorn Birds';
- fascinating hot mineral springs;
- the grandeur of the Warrumbungles, and
- the irony of some of Wolsley's failed inventions.

It would not be difficult to go on; however, I think the point is made. Once existing resources are acknowledged and treasured then there exists a barrier to excesses in a sense of negative concept. One becomes more aware of the value of interpersonal relationships, social capital, environmental uniqueness, a sense of place in time, the potential for innovation and the achievement of contemporaries.

This same type of thinking can be transferred to an examination of the inherent quality of educational resources and opportunities currently in operation in rural Australia and which are brought to the fore in times of crisis. It is my contention that rural schools are producing (or have the capacity to produce) a number of educational and sound outcomes at a surprisingly sophisticated (and non published) level and that we should be promulgating such achievements. By researching, and 'talking up' such venturesome feats it is my belief that we can add social capital to the informal curriculum, encourage confidence and consequently bolster achievement.

The one area I would wish to avoid is a 'rural school' versus 'urban schools' debate. What I would like to highlight, however, is that rural schools have unique strengths which tend to be downplayed by players in the education game. These positive attributes I would argue are being increasingly critical to what is perceived as being a sound education. It is my belief that school communities in times of economic crisis should gain solace and inspiration from the hope prevalent in the education systems. The key factor is **quality**, defined in this paper as:

- sensitivity to the client;
- knowledge associated with student background;
- community support;
- responsiveness to need;
- awareness of curriculum development, and
- willingness to engage in on-site action research.

I will focus on five aspects or education in rural Australia that are, to some degree or other, a response to a perceived sense of crisis and which have improved the general and comparative quality of rural education. The five such aspects I would wish to focus upon are:

- the increased potential for curriculum innovation;
- the level of cross system cooperation;
- the benefits of distance education as a stimulating learning mode;
- the positive outcomes from community 'closeness', and
- the increased potential for school-business enterprises.

The 'Away from the Centre' Crisis: The increased potential for curriculum innovation

It has been my experience as curriculum consultant in Western New South Wales that there has been a pervading attitude amongst rural schools that 'we are out of the mainstream' and missing out on all the exciting things happening in urban education. To compensate for these perceived shortcomings, and perhaps to supplement social lives, teachers in rural centres value their professional development and seem to absorb with relish the key lessons associated with inservice. Because of this and a range of other factors including:

- the professional drive of principals and the trust of the community;
- the composition of staff;
- equity funding, DSP, CAP, and
- the 'freedom' of distance.

There is an improved potential for implementation strategies associated with curriculum developments. In my experience the most cohesive staff situations and the most professionally aware staffs are rural ones.

I am not alone in those views having bounced this belief off a number of colleagues. It was interesting to note recently, too, that Ray Cavenagh, the colourful Deputy President of the New South Wales Teachers' Federation, had similar conclusions. He reflected in the midst of an interview regarding this achievement that:

> I was elected to the New South Wales Education Commission. It wasn't a great success. I don't think the Department or the Government were really committed to a lot of our conclusions. An area where it did have an impact, I think, was rural education (*New Perspectives*, Vol 3 No 4 1991).

I was interested to talk with Dr David Laird of the University of New England about his paper presented at the Australian Curriculum Studies Association National Conference in Adelaide last year. David was presenting a paper on vertical semester organisation (VSO) in the secondary curriculum. What amazed him in the early stages of his research was that experimentation in alternative length courses and vertical grouping of students dated back to 1976. He also noted:

> further analysis also revealed that it was the small secondary schools success as Central schools who were the most frequent users of VSO principles (Marshall, et al 1988).

Both Cavenagh and Laird acknowledged the role of Equity programs in the 70s and 80s. Cavenagh specifically went on to say that:

> ... we were more aware of the problems for country kids. I believe that the system. (New South Wales Department) and the people who it employs really have the responsibility to continue to explore those things which work.

I am cognisant in the rural schools for which I have responsibility of quite radical approaches to 'crisis' and equity concerns.

- School Board making serious allowance for financial deprivation to ensure equitable access.
- Experiments in incorporating upper, primary classes in secondary type time-tabling.
- Having occasional P&F functions on Aboriginal settlements.
- Action research projects on 'learning styles' to allow for equity considerations.
- Research projects on the performance/attitude of rural school products in terms of HSC performance.
- Shared educational resources as monies tighten, eg field days, excursions.
- Utilisation, of 'local' resources instead of reliance on external experts.
- Fostering cf cluster initiatives which obviate a reliance on the 'centre'.
- Dramatic use of the benefits of peer tutoring.

I know there are more. What I also know is that the list of rural initiatives has not been systematically chronicled and fed back to the rural sector. Their response to crisis and equity concerns has exhibited the typical attributes of our rich rural history in terms of:

- courage
- tenacity
- adventure.

Crisis of schools numbers and related curriculum offerings: The level of cross system cooperation

The experience of CAP, unique legislative demands in New SouthWales and the quality of relationship have led to some quite innovative arrangements in school communities.

One of the more interesting responses to size constraints involves a cooperative arrangement at Harden/Murrumburrah. Murrumburrah High School, situated in Harden, the smallest high school in New South Wales and Trinity Central School, Harden, with the smallest secondary school component in New South Wales Catholic education circles, decided to embark on what they called a 'Joint Venture'.

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The aims of the venture have been to:

- engage in limited staff sharing arrangements;
- provide access for all students to available technological resources;
- recognise, understand, respect, foster and preservice the distinctive differences that characterize each school, and
- foster a better understanding within the wider community of the advantages brought to it by the harmonizing of schools that sing different tunes.

Organisationally the schools share teaching resources in technics, music, art, computer studies and maths. The maths is interesting in that it allows the schools to offer three levels of maths instead of two.

A cross system evaluation committee attempted in both 1990 and 1991 to ascertain the level of success or otherwise of the project. Some of their more interesting findings were:

- 1990 - 99% of parents felt neither school had lost its unique identity;
- With reference to the question 'I enjoyed participating in the joint venture', 67% 1991 group of students responded positively compared with 65% in 1990;
- In response to the question 'I enjoyed the opportunity to mix with students from the other school', 76% of the students responded positively in the two years the survey has taken place;
- 68% of 1991 students responded positively to 'this project has improved my educational opportunities' while 69% responded that way in 1990;
- In 1991 95% of parents wish to see the Joint Venture project maintained or extended in 1992, and
- Not surprisingly there were a number of comments by parents along the theme 'anything that brings the community together is a must', although there were also two comments regarding the inefficiency of two separate systems. I am naturally reluctant to buy into that argument at this forum.

There will be pressure to include languages on the agenda for discussion at Harden/Murrumburrah Planning Committee in the light of recent legislative requirements.

It was suggested to me in November last year that another of our regional rural Communities has already begun negotiations on a similar arrangement. The obvious benefits of such co-operation include:

- economic rationalism
- community cohesiveness
- awareness of 'resource' potential
- greater opportunities for specialisation.

Crisis of Legislation: The administrative demands of the New South Wales Reform Act

The Metherell sponsored Education Reform Act 1990 outlined key learning areas (KLAs) in primary and secondary schools. Of particular interest to educational administrators in New South Wales rural areas was the **eight** KLAs for secondary schools. They included:

- English
- Mathematics
- Science
- Human Society and its Environment
- Languages other than English
- Technological and Applied Studies
- Creative Arts
- Personal Development, Health and Physical Education.

What was significant was that this detail was outlined in legislation and consequently provides a limiting framework for subsequent negotiation.

It was not difficult to see the genesis of this reform had to do with what Simpson in 'Blocked at the Entrance' called a utilitarian view of education where the education system was being restructured to ensure a more competetive economy. From an administrative view point what really stood out were the resource implications of the technological and applied studies and the provision of Languages other than English.

The LOTE challenge is one that will test my 'creativity in crisis' philosophy. The most obvious responses to the provision of a compulsory language other than English are:

- shared resources (cluster or town based), or
- distance education modes
  - correspondence,
  - integrated package.

The Commonwealth Schools Commission Report *Schooling in Rural Australia* had made mention of what they termed 'special teaching arrangements' in late 1987.

> A number of small rural schools are using special teaching arrangements, involving communication technologies, to extend their curriculum offerings . The 'Mallee Cluster' of Ouyen High School and four other high schools in the north-west of Victoria illustrates one way to broaden curriculum offerings in small schools. There is a number of schools in which similar arrangements are now well established (e.g. in Oatlands, Tasmania, and in some area schools in South Australia). In Western Australia 'mixed mode' teaching, involving supervision by a teacher of students taking correspondence school lessons while at school, operates in rural schools, to provide study opportunities at the Year 11 and 12 levels.

We have already toyed with the concept of a parent school linking up with a rural school to teach Indonesian. This telematic mode has worked well although there are limitations on numbers and certain tensions in the host school regarding priority and resourcing. Not surprisingly the Indonesian teacher has a genuinely deep commitment to her rural students and these students seem to be performing comparatively better than the Canberra based counterparts. It would seem that much of this has to do with teacher interest, student quality in the rural school, novelty factor, class size and resource support. The Indonesian teacher, in an evaluation of the project said:

> The group of St Mary's students involved in this program is a small, selected, highly motivated and intelligent one. Because the students do not see me, they have to develop a better listening skill, and therefore sense very quickly from the tone of my voice whether I am pleased or not. Through this exercise they acquired very good pronunciation.
>
> Involving students of ... in Distance Education at times, makes learning Indonesian a real challenge for both sides. These interactive, communicative activities are student centred, they want to write, to talk/ask, to 'show off'.
>
> To 'humanise' this high tech system I have visited West Wyalong twice and the students with their parents visited Canberra and attended the Charity Bazaar held at the Indonesian Embassy. They experienced a quick introduction to Indonesian food, dance and community. Apart from that, my family had the pleasure to host 4 of the students, and we, the guests and my family, had an interesting and enjoyable weekend.
>
> By having many visitors, teachers, native speakers etc. talk to the students , their motivation to learn Indonesian increased.
>
> By taking part in this high tech system, students gained computer skills.
>
> The students, maybe because they are a small group and very motivated, have achieved more than my year 8 students at .... I think the project is quite successful.

> After teaching Telematic for about a year I must admit that actually there is not very much of a difference between the traditional face-to-face teaching and teaching by telematic delivery - as a matter of fact, it improves my preparation and my approach to teaching, it increases my understanding of the current technologies.

With seven Central schools, the Archdiocese is in the process of extending the model to include central schools at Tumut, Cootamundra, Young, Cooma and Temora. The technology is in place for three of these schools. We look like advertising for a language teacher in the next three months and we expect the project to take wings. The difference in mode and the response to perceived need will ensure its success. The legislative crisis will generate an essential and innovative response.

Crisis of 'familiarity breeding contempt': The positive outcomes from community closeness

Eugene Clark and William Ramsey of the University of Hobart have been doing some conceptual work on what they term 'social capital'. They define:

> **human capital** (as) the skills and abilities which a person possesses, and
>
> **social capital** (as) the network of relations surrounding a person.

They state that social capital is an increasingly neglected ingredient. Their argument goes that, traditionally, children were given their set of assumptions by the family and the wider community of adults of which the wider community was a part. As the family has become denuded of adults through a narrowing of the extended family and the neighbourhood has lost its character as an independent community, the institutions which formally socialised our children are crumbling.

Clark and Ramsey proceed to talk about the benefits of the 'small diversified village' in promoting social capital. What we have in essence in many of our rural communities is the basic model being proposed by urban planning groups.

The emphasis in the literature on educational administration, according to Dr Charles Burford, has moved from a focus on curriculum offerings to the essential and motivating influence of the informal curriculum. Burford even went as far as to suggest that an equally important criterion for parents choosing a new school for their children should be the cohesiveness and energy of parent bodies supporting the school.

The importance of the 'informal' curriculum is further highlighted by some as yet unpublished research by Brother Marcellin Flynn on 50 secondary Catholic schools in New South Wales and the ACT. In that research Marcellin has found a link between the informal curriculum and

performance. The research outcomes, particularly the student responses, focused very much on the quality of relationships.

My view is that, given the natural closeness of rural communities, many aspects of smaller rural schools mirror (or have the potential to do so) the ideal in this respect thus impacting on motivation and educational performance as well as quality of life.

Many systems throughout the country are in the process of school evaluation, appraisal or renewal exercises. It will be interesting to study the differential responses of the parent bodies and the wider communities to invitations for participation.

The crisis of the economy: The increased potential for school business enterprises

The Finn Committee in July 1991 argued for a necessary convergence of general and vocational education. Despite pleas by Anne Morrow (a member of the Finn Committee) for an appreciation of perspectives on this issue and assertions by Cherry Collins that general and vocational in this context is a false dichotomy, there is pressure on schools to relate more of what happens in schools to national economic needs.

The executive summary of the report says quite uncompromisingly:

> This review implies that in order to serve their clients needs schools will need to change. Schools will need to become more concerned with issues of employability and the provision of broad vocational education (ix).

The ASCA (Australian Curriculum Studies Association) is conducting some valuable research on school/industry links and preliminary findings indicate some quite fascinating rural examples of well established, innovative linkages. One of the purposes of the research was to identify, encourage and support the best rural enterprise or school/industry practices. The research involved the strategies of survey and potential case studies of exemplary practice. The survey indicated the following range of activities with industry links and which are uniquely rural in orientation:

- cultivation
- tree propogation
- animal husbandry
- mussel farming
- acquaculture
- harvesting of tea tree and separation of oils.

To some degree, and quite inadvertently, this development focuses on a major concern of Helen Sungaila who undertook an exceptionally thorough but unpublished study of the Instructional Needs of Country Children in 1979. Helen's major finding was that country students lacked

a natural curiosity and the teaching as well as the curriculum needed to be more responsive to the interests and experiences of these children. Helen concluded that 'Aboriginal children learn best by doing'; 'poorer white country children have an urgent need to have their curiosity aroused by a classroom environment ... rich with novel, strange, incongruous, mysterious, concrete observable stimuli'; 'all country children well endowed or deprived, white or black, need the awareness of, attention of and corroboration with supportive adults if they are to be curious'.

A number of significant Finn recommendations concerning vocational stimuli sit comfortably with the existing rural platform and potentially feed well the needs of country students. As Clark and Ramsey observed: 'Integrated communities create the equivalent of a small diversified village where children can observe work and trades close at hand and even play a role in them'. This surely is a plus when we examine the potential for creativity in crisis.

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Post Compulsory Education and Training opportunities for rural Australians

Doug J. Lloyd, *La Trobe University College of Northern Victoria*

Introduction

This paper seeks to identify some of the research issues in post compulsory education and training as they apply to rural Australia. It is intended as a starting point for discussion between participants at the Rural Education Research Association's 1992 National Conference from which will emerge a set of research priorities and strategies.

Background

Rural Australia's participation in post compulsory education and training in any of their forms continue to be problematic despite identification and attempts to address the issue since education systems were first established. One of the 'earlier' examples of comprehensive documentation came in the form of the joint Country Education Project and Participation and Equity Projects' publication '3 Times Less Likely'. It took up the issue of country people being three times less likely than their metropolitan peers to enter a higher education institution.

The recent National Board of Employment, Education and Training (NBEET) publication, 'Towards a National Education and Training Strategy for Rural Australians', identifies much of the relevant literature (p.3, pp.67-70), the statistical data which demonstrates the low levels of participation (pp.16-26, 28-29) [and problems associated with this being unavailable until recently (pp.4-5)], barriers to participation (pp.30-41) and major development in increasing non-metropolitan participation (pp.41-50). The Board recommends coordination, particularly between Commonwealth and State authorities, as being central to improvements. A comprehensive national education and training strategy for rural Australians is proposed along with a set of recommendations through which these can be achieved.

The 'Think Tank' Conference in 1990, which led to the formation of the Rural Education Research Association (Inc), used Steve Clark's Rural Education Research, 'A 'State of the Art' Review' as a background paper to the issues facing researchers in the area. The conference produced a set of research priorities, included in the Proceedings, which are largely complementary with those implied in the NBEET paper. The identified priorities are in the areas of schooling, community, educational delivery, technology and special needs.

Young People's Participation in Post Compulsory Education and Training (The Finn Review) and the subsequent brief set for the Mayer Committee on Employment-Related Key Competencies for Post Compulsory Education and Training raise issues in this area for all Australians, and propose targets for participation that relate closely to those in the NBEET paper. The proposals for reform provide a range of challenges. Some relate to education and training in general, such as the extent to which there should be a 'convergence between the concepts of work and education' (p.ix). Equally important questions for rural Australians relate to the way in which current nature, quality and range of, and levels of access to education and training might be changed by the principles or implementation of the reforms.

More recently, the Strategic Review of Research in Education has produced an Interim Report, 'Educational Research in Australia', in which research activities are surveyed and priorities are advanced. Of relevance to rural education research issues are the proposed criteria for setting priorities. They include social and economic needs, existing research strengths and important gaps. Initial priority areas proposed in the draft national research agenda that are relevant for rural education researchers include a focus on learning; education, training and work; organisation of educational systems and institutions; and improving professional practice.

Other recommendations include support for greater concentration of research effort on priority areas by well coordinated teams of researchers that combine a mix of skills and disciplinary perspectives; more key research centres; state, regional and local initiatives to promote greater collaboration between researchers, policy makers and practitioners; and the establishment of an Education and Training Research Board.

It is clear that current high levels of activity on a research agenda and strategies is timely. The problems have widespread recognition and are increasingly in the public eye as effects are highlighted by social and economic issues in rural Australia. The current national shortfall of an estimated 50,000 higher education places and 150,000 TAFE places for qualified applicants are good examples. Similarly, apparent inequities in access that relate to one or more of geographic location, economic circumstances, cultural background, gender, etc, etc, are being better documented and attracting increasing concern.

Approaches to a Research Agenda

A number of possible research priorities and strategies emerge from the NBEET paper. They may relate either to the National Participation Objectives (p.55), viz:

- 100 percent participation in the equivalent of twelve years of structured education/ training/ pre-vocational study for young non-metropolitan Australians by 1995;
- Participation in higher education and TAFE by young non-metropolitan adults to levels comparable with their metropolitan counterparts by 1995;
- Over the next decade, participation by adults in non-metropolitan workforce in skills training/re-skilling to the levels necessary to satisfy the needs of non

metropolitan Australia in economic, social, environmental, individual or community terms.

They may also relate to Major Policy Principles (p.55) in terms of policy analysis or consequent systems development, or to Priorities for Cooperative Commonwealth-State Action (p.55), such as locally accessible provision of post-compulsory education and training.

Coordination of the types identified by each major study of the issue will be a key. For example it would be unfortunate if the data collection and analysis processes, which so far have been either non-existent or only available on a very restricted basis but on which much activity depends, were to remain duplicated, fragmented or incomplete.

Compilation and dissemination of data collections and analyses is important. These will serve to quantify better the present situation, identify levels of disadvantage (including some not previously identified), and allow for the development of further perspectives on variability between rural circumstances.

A number of groups and agencies have undertaken surveys and analyses of anecdotal information relating to successful strategies, although the bases on which success is determined has seldom been highly rigorous. These include in Victoria the Delivery of Rural Education and Training (DORET) and more recently a Study of Government Service Delivery to Rural Communities undertaken by the Office of Rural Affairs.

Studies similar to these but which are focussed on a method of providing post compulsory education or training to rural people and are evaluated rigorously for both their immediate effectiveness and wider applicability would prove useful. A limitation clearly related to the implication that there can be one system that delivers all programs effectively to all people. While this is clearly not the case, investigations of provision through mixed modes in various combinations according to the situation is likely to be more productive.

Each of these suggestions is consistent with some of the priorities and strategies developed in outline during the 'Think Tank'. Others would emerge from developing other priorities; for example, the schooling themes which apply more directly to post compulsory schooling, community issues or the special needs issues that would relate to specific populations or types of (multiple) disadvantage within rural communities.

Conclusion

The conference seeks a practical and effective conceptualisation of the research priorities and strategies for post compulsory education and training in rural Australia. Contributions that help to develop such a scheme and then work purposefully towards its realisation are invited from all participants.

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Multimedia Information Systems - In Support of Learning:
The Northern Territory Animals Information System - A case in point.

Graeme Sawyer, *NTAIS Project Coordinator, Northern Territory Department of Education*

The Northern Territory Animals Information System (NTAIS) project is a state wide initiative of Commonwealth Programs for Schools, Country Areas and Priority Government Schools Programs.

Background

The effectiveness of computers as a learning tool has not been formally established but personal experience and teacher attitudes generally suggest a positive impact on student performance. Research from other quarters suggests that the impact of computers on learning is significant.[1] In this article some of the issues relating to the use of computerised Multimedia Information Systems, and Hypermedia Information Systems will be discussed.

Hypertext systems provide access to text in a non-sequential, non-linear fashion. Hypermedia refers to the delivery of non sequential, nonlinear access to information, but across a wide range of media, text, sound, graphics, video, etc.

Databases are collections of data structured in such a way as to allow efficient and varied access to that data. We are familiar with them in relation to library catalogues, encyclopedias , telephone books etc. Databases have had a new dimension added to them through the use of computers.

Hypermedia adds a further dimension to their use because of the ability to link to other information rapidly, and their ability to use text, sound, graphics, and animation to display information.

My first experience with a computerised database in a primary school was in 1982, when with a Year 6 class we used PFS File to complete a unit on Australian Explorers. Each of the students added information about their explorer to the database. The process of developing the database structure and adding the materials opened my eyes to the potential of a such activities to generate deep thought and intense discussion in the classroom , but it also showed some limitations of the technologies that we were using at the time.

Since that time I have had a strong interest in using databases in schools as a mechanism for fostering learning activities and as a tool for assisting students to develop understandings about topics.

Multimedia adds some extra dimensions that offer teachers support in facilitating learning. In this paper I refer to Information Systems rather than databases, to distinguish this approach from the use of flat file databases such as Appleworks that are so popular in education, but restricted to text and limited amounts of information.

The Northern Territory Animals Information System (NTAIS) is the result of my interest in databases in the classroom, coupled with the emerging technologies of Multimedia and specifically Hypercard. Such software removes many of the restrictions imposed by the older flatfile database. Together with the educational opportunities and enthusiasm they stimulate I believe we are beginning to see one aspect of the promise of computers to education come to fruition.

Outline of the NT Animals Information System Project.

The NTAIS project has two broad objectives:

- The involvement of school communities in the collection of data relating to ecology of the N.T. The data is being used to prepare a multimedia information system containing text, graphics, sounds, animation and hopefully video, for use in educational settings, and

- The development of skills in students and teachers that will enable them to use new technology and information systems to support learning.

The central theme for the project is the ability of Multimedia Information Systems systems to support multi-disciplined learning environments and to facilitate learning processes.

In developing the NTAIS I have been attempting to provide an information system that allows teachers to explore ways in which information systems can be used to support learning. Engaging students in activities that lead to learning across a range of subject areas is not always easy. There are demands on teacher time and efforts required to keep tabs on different people doing different things. It is often easier to follow the programmed learning kits that are so readily available. The computer coupled with the right teaching approach can provide a focus for the activities of the students, providing an appropriate degree of guidance and support, but still leaving the learner to make meaningful choices about learning paths.

Student developed information systems evolve to provide a model or concept map[2] of the knowledge of the students, pieced together by the students. They also provide a resource that can be referred to at a later date, have more added to it , or linked to new areas of study. Papert's notion of constructionism[3] applies as groups of students participate in the preparation of an information system.

Computers have been used in primary schools in the Northern Territory since the early 1980's with the introduction of computers to Darwin Primary School (Apple) and Wulagi Primary school (Vic 20) in 1981. Assistance for schools to purchase computers since 1984 has led to them being widely distributed throughout all Northern Territory schools and being used regularly as a part of normal classroom practice.

The important questions to be asked relate to whether it is appropriate for the systems to be used in education, particularly remote education, and what are the implications for learning.

> Education has always been about equipping people, mentally and physically, with those things which they require throughout their lives. If this is still the case, then education now needs to provide people with general skills, and, in particular, learning skills so that they can become self directed and independent in their learning throughout their lives. Information Technology is an essential component of this new provision if we are to equip present and future students with the skills and knowledge which they will require both in the short-term and long-term futures. [4]

Well designed Multimedia Information Systems can be an exciting and extremely valuable component of education. Equipping students with the required skills for locating relevant information and the interpretation of that information as opposed to remembering facts are significant goals of current education. Computer technology and Multimedia Information Systems will play an increasing role in accessing information.

The development of skills related to the ability of students to find and interpret information, will be one of the learning issues for schools moving into an age where information is increasingly accessed through computerised information systems.

Computers and computer access to Database Systems are able to deliver information to students in ways that were not possible with older technology. Many aspects of this new access to information have learning implications, especially for the development of information processing skills and learning environments.

> Limited research results suggest that students who use computerised data management systems outperform other students in tests of information processing skills, including identification of requisite information to solve a given problem and selection of efficient modes of organising information.[5]

The inherent structure of a database and the types of access they give to information would seem to be reasons why children learn more effectively when using the database. The skills that students need in order to use a database system include the ability to:

- define a problem in specific terms, perhaps breaking it into several smaller steps;
- identify specific data needed to address the problem;
- locate and extract relevant data from the larger collection of data;
- put the data in a useful order;

- organise printed lists or arrangement of the data;
- use the information obtained to identify patterns such as relationships or trends (as well as cases that depart from the pattern);
- identify further information needed in order to explain, interpret or investigate cause and effect relationships, and
- communicate findings to others.

While the use of information systems in the learning environment appears to promote increased development of these skills in students more research is needed to understand the processes involved.

Speed of access to information and expanded cross referencing are two major areas where computer systems are able to outperform the older technologies. Computer systems are able to deliver information quickly which enables students to find information when they require it. Often the process of finding information through indexes and catalogues causes the student to loose track of the thoughts that caused them to begin the search and of the relative importance of the information. Often students tend to skip words or concepts they do not understand because of the difficulty of finding the information that may enlighten them. Computers systems can overcome such problems

Databases and Learning Theory

Many aspects of learning in schools can be linked to Psychological theories such as:

> Teachers lead children to seek answers to problems, to formulate their own answers, to devise procedures for problem solving, relate facts to broad concepts, and use techniques of inquiry. Instead of memorising facts children are engaged in active questioning, hypothesizing, searching, interpreting and generalising.[6]

Inquiry learning is based in Piagetian ideas relating to interaction and active learning and Cognitive Psychology notions of metacognition and knowledge structures.

> Children who use data bases for searching and sorting information or organising information are engaged in one of the fundamental skills of inquiry learning - handling information.[7]

The ability of databases to provide access to support information and their ability to allow users to verify ideas by rapid data searches, encourages inquiry, and enables students to test hypothesis and to think more about the meaning or interpretation of information, rather than having to worry about the finding of the information This relates to some key concepts of cognitive psychology: metacognition, knowledge of your own cognition, and schemata, the way knowledge is represented in our memory.[8]

The immediacy of feedback is an important aspect of the learning process and database information can be accessed more rapidly. It can also be accessed in a different manner. Hypermedia Information Systems in particular are able to give access to information from a

position of very little knowledge, similar to that of a non expert. Partial word searching, and non sequential data access mean people can get to information without having to know the correct terminology to look up an index. This process enables learners to quickly build on small pieces of information.

> For cognitive psychologists, learning is viewed as a constructive process where changes occur to the internal representation of knowledge. Instead of learning responses, the emphasis is on learning information .... Learning is viewed as an active process where experiences contribute to the development of meaning and understanding.... There is greater emphasis on learner control and adaptation to the learners existing knowledge. Duchastel (1986) calls this a reactive learning environment.[9]

The ability of modern information systems, incorporating hypermedia, to rapidly provide access to related information, at the control of the learner should increase the rate of learning. The problems of finding related information or of finding definitions or additional information when required will be reduced.

The attitude of the learner is an important feature of the learning environment and there tends to be a positive attitude towards computers and especially Multimedia Information Systems. This is particularly important as a positive attitude relates to performance through factors like perseverance and effort that are put into a learning task.

> There are three main steps in inquiry learning: the acquisition of information; its organisation and transformation; and its application and communication.[10]

Databases by nature are structured, and parts of this structure could be a factor in assisting students to organise and structure information as they internalise that information. It is interesting the way that a Hypermedia information system gives user control and flexibility within the broader structure of the information contained in the system.

The ability of this blend of structure and flexibility to assist learners appears not to be subject of published research , probably due to the recent emergence of software that provides the capabilities. There is considerable speculation about the potential of such systems to support learning.

The strategies employed by a teacher using information systems as a learning tool is of importance here. A carefully sequenced learning situation is designed to develop a clear understanding by exposing the structure of information piece by piece.

> Many educators have found that instructional database activities offer a wide range of opportunities for students to obtain thinking skills. The marriage of higher order thinking skills - analysis, synthesis, and evaluation (Bloom 1956) - and instructional database activities appears to be a natural ... It should be stressed, however, that databases only provide the medium for such inquiry. The rest is dependent on

> the well- conceived implementation of solid teaching strategies that engage students in higher order thinking.[11]

From the limited research it appears that there is a wide scope for information systems to play an increasing role in education. Their capabilities to present information in a number of ways, and to rapidly give access to related information enable them to support many modern teaching strategies such as inquiry learning and holistic[12] approaches that have roots in cognitive psychology.

In a report on research presented in the journal **The Computing Teacher** Betty Collis reported that from 1985 - 1989 six studies involving databases showed a need for the teacher to have input to encourage the sorts of questions children can ask of a database and that "Database use integrated with classroom instruction can transfer to strengthened 'process skills' relating to the evaluation of information."[13]

Many of the issues relating to hypermedia as a learning tool are still unresolved individually. The level of learner control and the variables they control best are still unclear, despite the potential advantage reported for greater learner control, research to date has yielded mixed results on the effects of learner control on student achievement.[14]

The level of learner control and its significance on learning may be enhanced in a situation using multimedia systems. Perhaps the inconclusive results of the studies to date are failures of technology used to deliver some information or control to the learner, perhaps problems that multimedia systems can overcome?

Many other issues relating to instructional design and learning in relation to hypermedia are still unclear. Further research will be required to develop a greater understanding of ways in which the capabilities of computerised Multimedia Information Systems and particularly hypermedia information systems can be used to assist learning. It appears that the ability of these systems to rapidly provide information, to give learner control, and to allow a self directed query approach to learning, may be significant to learning outcomes.

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LIST OF PARTICIPANTS

Mr Lee Borradale
Chair - Schools Permanent Committee
PO Box 3317
MANUKA ACT 2603

Ms Joan Brown
4 George Parade
BAULKAM HILLS NSW 2153

Ms Kaitlin Callaghan
Coordinator
Mt Isa Area School Support Centre
MT ISA QLD 4825

Dr Jim Cameron
Dean - Faculty of Education
Northern Territory University
PO Box 40146
CASUARINA NT 0811

Mr Barry Castley
Youth Employment Service
Department of Education, Employment & Training
BRISBANE QLD 4000

Mr Steve Clark
Mr Isa Area School Support Centre
PO Box 172
MT ISA QLD 4825

Ms Anne Clarke
Isolated Children's Parents Association
Brinawa Station
BURKETOWN QLD 4830

Mr Malcolm Clune
Principal
The Rock Central School
THE ROCK NSW 2655

Ms Sue Coppock
Isolated Children's Parents Association
PO Box 8375
ALICE SPRINGS NT 0871

Ms Miriam Daley
Equal Opportunities Unit
Department of Education & TAFE
31 Flinders Street
ADELAIDE SA 5000

Ms Pascale Dixon
Evaluation Research & Accreditation
NT Department of Education
GPO Box 4821
DARWIN NT 0801

Ms Kerry Dohring
Principal
Port Lincoln School
Lincoln Place
PORT LINCOLN SA 5606

Ms Julia Evans
Rural Community Policy Section
Department of Primary Industries & Energy
GPO Box 858
CANBERRA ACT 2601

Mr Geoff Gaskell
Academic Coordinator
NT Rural College
PO Box 1196
KATHERINE NT 0851

Dr Ian Gibson
Director - Consortium for Educational Research in Rural Australia
University of Southern Queensland
TOOWOOMBA QLD 4350

Mr Dennis Griffith
Director - Planning & Revenue
NT Department of Education
GPO Box 4821
DARWIN NT 0801

Ms Madelaine Hedges
Area Director of Education
25 Clifford Street
PROSPECT SA 5082

Ms Wendy Heron
Commonwealth Programs Secretariat
NT Department of Education
GPO Box 4821
DARWIN NT 0801

Dr Andrew Higgins
Manager - Distance Education
Queensland Police
13 Cronin Drive
WELLINGTON POINT QLD 4160

Mr Anthony Holmes
Manager
Statistics and Demography
NT Department of Education
GPO Box 4812
DARWIN NT 0801

Dr Phillipa Hudson
Director (Social Policy)
Office of Northern Development
GPO Box 4075
DARWIN NT 0801

Ms Anne Jillett
Task Force Review Committee
Nudgee Junior College
Long Gully Road
GRANDCHESTER QLD 4340

Ms Olive Jones
Youth Employment Service
Department of Education, Employment & Training
BRISBANE QLD 4000

Mr Peter Jones
PEO - Aboriginal Schools Curriculum
NT Department of Education
GPO Box 4821
DARWIN NT 0801

Ms Sheila King
School of Education
University of Southern Queensland
TOOWOOMBA QLD 4350

Mr Stan Klan
Principal
Blackheath & Thornburgh College
CHARTERS TOWERS QLD 4870

Mr Alf Leonardi
Ministerial Advisor to the Leader of the Opposition
PO Box 62
ALICE SPRINGS NT 0871

Ms Julie Ling
Office of the Cabinet
Queensland Government
PO Box 390
NORTH QUAY QLD 4002

Dr Doug Lloyd
Dean of Education
Latrobe University College
PO Box 199
BENDIGO VIC 3550

Mr Paul Loney
Queensland Department of Education
PO Box 33
NORTH QUAY QLD 4002

Dr Doug Lloyd
Dean of Education
Latrobe University College
PO Box 199
BENDIGO VIC 3550

Ms Lorrie Maher
Association of Independent Schools
15/67 O'Connell Terrace
BOWEN HILLS QLD 4006

Mr Richmond Manyweathers
Manager
Distance Education Task Force
GPO Box 33
SYDNEY NSW 2001

Mr Alden McCue
Regional Superintendent
Operations North
PO Box 1246
KATHERINE NT 0881

Mr Jack McFaul
SPERA Inc
Henkley
CENTRAL TILBA NSW 2546

Dr David McSwan
Director
Rural Education Research & Development Centre
James Cook University
TOWNSVILLE QLD 4811

Ms Sue Mihovilovich
Planning & Revenue Officer
NT Department of Education
GPO Box 4821
DARWIN NT 0801

Mr Jock Norton
Rural Communities Policy Unit
Premiers Department
Queensland Government
PO Box 390
NORTH QUAY QLD 4002

Ms Margaret O'Brien
State Executive Officer
Country Areas Program
Smalls Road
RYDE NSW 2112

The Hon Laurel Power, MLA
2 Chiniala Street
MANSFIELD QLD 4122

Mr Bob Rasmussen
Brisbane School of Distance Education
Distance Education Centre
BRISBANE QLD 4000

Br Liam Regan
Catholic Education
Nudgee Junior College
INDOOROOPILLY QLD 4068

Ms Cheryl Robert
Principal
Alice Springs School of the Air
ALICE SPRINGS NT 0871

Mr Glenn Roff
Assistant Director
Catholic Education
PO Box 3317
MANUKA ACT 2603

Mr Ken Ross
Department of Social Security
PO Box 2436
DARWIN NT 0800

Mr Ken Rowe
Director of Studies
Sadadeen Secondary College
ALICE SPRINGS NT 0871

Ms Glenda Russell
Executive Officer
CAP/DSP Programs
Department of Education and the Arts
71 Letitia Street
NORTH HOBART TAS 7001

Ms Sandy Sadowski
Principal
Katherine School of the Air
PO Box 531
KATHERINE NT 0851

Mr Nick Saviadas
Adult Educator
Yuendumu Community Education Centre
Yuendumu
VIA ALICE SPRINGS NT 0871

Mr Graeme Sawyer
Technology Education Centre
NT Department of Education
GPO Box 4821
DARWIN NT 0801

Ms Pauline Sedgwick
Senior Policy Advisor
NSW Office of Education & Youth Affairs
Level 16/55 Market Street
SYDNEY NSW 2093

Mr Huang Sen
Principal Research Officer
Evaluation Research & Accreditation
NT Department of Education
GPO Box 4821
DARWIN NT 0801

Mr Adrian Sexton
Catholic Education Office
181 McKrae Street
BENDIGO VIC 3550

Mr Geoff Sloan
Batchelor College Coordinator
Central Australia
PO Box 9170
ALICE SPRINGS NT 0871

Mr Scott Smith
External Studies Unit
Murdoch University
4B Dixon Place
KARDINYA WA 6163

Mr Geoff Spring
Secretary
NT Department of Education
GPO Box 4821
DARWIN NT 0801

Mr Don Squires
Director, Centre for Research
& Training in Rural Education
Charles Sturt University
BATHURST NSW 2795

Ms Roslyn Stewart
Head of School of Business
NT Open College
20 Haritos Street
WANGURI NT 0810

The Hon Syd Stirling, MLA
62 Banyan Road
NHULUNBUY NT 0880

Mr Elmer Varga
8 Babbage Street
ALICE SPRINGS NT 0871

Professor Jack Walton
Rural Education Research &
Development Centre
James Cook University
TOWNSVILLE QLD 4811

Ms Carlene Wilson
Level 16/55 Market Street
NSW Office of Education & Youth
Affairs
SYDNEY NSW 2093

Mr Murray Yaxley
Manager - Special Purpose Programs
Department of Education and the Arts
71 Letitia Street
NORTH HOBART TAS 7001

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TITLE: Enhancing the professional development of teaching staff in rural and remote areas.

RATIONALE

To ensure that rural and isolated teachers have sufficient access to appropriate professional development.

PROPOSED ACTIVITY

1. Review of existing relevant literature
2. Identification of:
   - the needs for professional development of all teaching staff
   - barriers to access to professional development.
3. Survey and evaluation of current models, programs, resources and processes for professional development
4. Determination of appropriate strategies and options for delivery of professional development services.
5. Identification of requirements for implementation.

PARTICIPANTS

Practicing teachers in rural areas; employing authorities' professional development personnel .

LIKELY COSTS

Unknown. Dependent upon the scope of the investigation, and whether at a national or state/territory level.

POSSIBLE SOURCE OF FUNDS

Private grants, employing authorities, DEET, professional associations, ICPA, DPIE, rural associations, mining companies, ARC, AEC, ATSIC

LINKS TO OTHER KNOWN PROJECTS

CERRA study on pre-service attitudes; induction studies on teachers' reactions to their first appointment; Mayer committee; National Project on the Quality of Teaching and Learning.

DEADLINES

Commence project in September 1992 with a view to publishing results in February 1994.

CONTACT PERSON

Dr Andrew Higgins
13 Cronin Drive
WELLINGTON POINT QLD 4160
Ph: (07) 2072584
Fax: (07) 2363327

RESEARCH PROJECT 2

TITLE: Impact of devolution on the quality of education services for small rural communities.

RATIONALE

Management and administration of Australian education traditionally has been centralised, and is moving towards a more decentralised model with the allocation of resources and decision making being made at a school level. This research project wishes to examine the impact of devolution on the quality of rural education.

PROPOSED ACTIVITY

Publicise concerns of the rural community and enlighten policy makers as to the possible problems of devolution on teaching staff and local rural communities with a view to ensuring that rural communities are not disadvantaged in terms of the allocation of resources and demands on the limited time to a small school community.

PARTICIPANTS

Teachers, parents, administrators, executive staff, key personnel in various Education Departments and Ministries of Education.

LIKELY COSTS

At this stage it is difficult to determine dollar costs. However, it would include: telephone conferences and various other communications.

POSSIBLE SOURCE OF FUNDS

Sponsorship, research grants (ARC), department of education, community groups (ICPA and NFF for example); COGSO.

LINKS TO OTHER KNOWN PROJECTS

David McSwann offering 1 semester course on the role of teacher in small communities in undergraduate teacher education.

DEADLINES

Six months minimum, twelve months maximum. Begin ASAP.

CONTACT PERSON

Dr Jim Cameron
Faculty of Education
Northern Territory University
PO Box 40146, CASUARINA NT 0811
Ph: (089) 466105 Fax: (089) 466151

TITLE: **Isolated parents' concern about academic standards and strategies for ensuring that children in isolated areas are meeting the standards of children of comparable age.**

RESEARCH QUESTIONS

- What, in regard to standards, are isolated parents expressing their concern?
- What kinds of assurance do parents need regarding standards?
- What kinds of reporting do parents wish to receive?
- What do parents want to get out of reports?
- What are some of the strategies to address parents' concerns?

PROPOSED ACTIVITY

- Survey of isolated parents' concerns and needs regarding learning outcomes and standards
- Introduction of AEC subject profiles introduced into the Northern Territory will provide a common reporting framework
- Information booklets to parents on how to interpret a broad reporting framework using subject profiles
- Collection of work samples sent in by parents and reporting on their children's performance against levels in the profile
- Evaluation of students' work samples and annotations
- Provision of assessment tasks at appropriate levels
- Validations of subject profiles
- Recommendations for improving standards

PARTICIPANTS

Isolated Children's Parents Association
Urban and Aboriginal schools in the Northern Territory
NT Board of Studies
NT Department of Education: Curriculum and Assessment Division
Queensland Department of Education
Remote area schools in Queensland

LIKELY COSTS

	1993	1994
Project Officer (Education Officer Level) (inc On-Costs)	71,000	71,000
Travel	15,000	15,000
Operating Costs	10,000	10,000
Total	96,000	96,000

POSSIBLE SOURCE OF FUNDS

Department of Employment, Education and Training

LINKS TO OTHER KNOWN PROJECTS

AEC Subject Profiles in Mathematics

CONTACT PERSON

Huang Zheng Sen
Curriculum and Assessment Branch
Northern Territory Department of Education
GPO Box 4821
DARWIN NT 0801
Ph: (089) 896376 Fax: (089) 411120

RESEARCH PROJECT 4

TITLE: Utilising Multimedia Information Systems in Remote Learning Situations

RATIONALE

Technological innovations are frequently introduced without due regard to the reaction of end users. The purpose of this project, therefore, is to find what happens in a remote learning environment when the capabilities of multimedia systems are introduced. The following are key research questions:

- Is the multi-media system effective in achieving learning outcomes?
- What are the curriculum implications of its use?
- What were the reactions by children and teachers to its use?
- What is required in terms of pre-training for staff to facilitate introduction?

PROPOSED ACTIVITY

- recording of processes observed in classrooms
- determining of preparation/training needs of teachers
- evaluating the implementation experience of schools with the Northern Territory Animals Information System (NTAIS). The evaluation would be based on:
  - case studies across several sites; possible sites include
    Gapuwiyak
    Katherine School of the Air
    Katherine High Schhol and schools in the Mt Isa area

PARTICIPANTS

Northern Territory Technology Education Centre

Northern Territory University

David McSwan, Rural Education and Research Development Centre, James Cook University

Steve Clark, Queensland Department of Education, Mt Isa

LIKELY COSTS

To be determined, depending upon case study sites.

LINKS TO OTHER KNOWN PROJECTS

- CAL projects in Victoria and Western Australia (Scott Smith, Murdoch University)
- Northern Territory Animals Information System
- Apple Computers
- Heritage Commission

DEADLINES

March 1992 - Initial report of project development, implementation and setting up phase conducted during 1991.

Final report prepared by January 1993, implementation of trails conducted during 1992.

CONTACT PERSON

Mr Graeme Sawyer
Technology Education Centre
Northern Territory Department of Education
GPO Box 4821
DARWIN NT 0801

RESEARCH PROJECT 5

TITLE: **Perceptions of the quality of teaching and learning in the rural secondary school and its community**

RATIONALE

To explore the perceptions of the whole school community regarding the quality of teaching and learning in secondary classes

To identify strategies which enhance opportunities for rural schools to:

- increase retention rates
- provide increased participation rates by girls across the curriculum, especially in Mathematics and Science
- broaden curriculum offerings

RESEARCH METHODOLOGY

Sample

- a CAP secondary school in a single school town
- a school where pupil numbers are increasing because the community is facing the economic rural downturn
- a school where the total secondary component is of the order of 150 students
- two schools in each of Queensland, Tasmania, New South Wales and South Australia

Methodology

- quantitative and qualitative
- case study based
- questionnaires and interviews - documentary analysis

PARTICIPANTS

- appropriate state and local CAP personnel in Queensland, Tasmania, New South Wales and South Australia
- University rural research centres
- targeted schools and their communities

LIKELY COSTS

Questionnaire	$2000
Case study	$8000
Analysis (computer tape)	$1000
Teleconferencing	$2400
Administrative and Secretarial	$4000
University input	$4000
	~~$26400~~

POSSIBLE SOURCES OF FUNDS

NATCAP to be applied for through the national initiatives by RERA

LINKS TO OTHER KNOWN PROJECTS

Possible links with other NATCAP initiatives

DEADLINES

The project should be completed by the end of 1993

CONTACT PERSON

Dr David McSwan
Director
Rural Education Research & Development Centre
James Cook University
TOWNSVILLE QLD 4811
Ph: (077) 814111

RESEARCH PROJECT 6

TITLE: The changing environment for the secondary elements of Central Schools

RATIONALE

There are a number of factors placing significant challenges on the secondary elements of Central Schools. The task is to identify these trends and factors and to assess their impact on the schools as well as to identify measures being taken to attend to them.

PROPOSED ACTIVITY

The appointment of an educational researcher with a brief to explore significant trends and factors from the list below.

- Enrolments
- Family size
- Staffing levels
- Curriculum offerings
- School income - fees and charges; parish; parents and friends
- Staff Development
- Changes in structures affecting the school, e.g. School Board
- Sources of enrolments
- Student destination (post Year 10 and during Years 7-10)
- Government policy changes 1970-1992
- Effect of policy application
- Staff stability/mobility factors
- Change of school leadership from religious to lay (impacts on school, enrolments, staff make-up, curriculum, level of innovation, rate of leadership changes)
- School facilities, including specialist faculties
- Maintenance
- Commonwealth funding
- Links with and effect: CEO; religious orders
- Sport: social activity - cultural activity
- Links and relations with other institutions
- Strategies employed to address the perceived trends and the effects they have had
- Role of parents in supporting the school
- Nature of the catchment area for the school, e.g. impact of school bus services, closeness of small schools
- School management practices
- Strategic planning in high school
- Public relations, e.g. School Certificate results
- School promotion
- Roles and positions of key school personnel - changes over time
- Goals to be achieved

FOCUS

Focus would be on the six (6) rural schools with Secondary departments in the Canberra-Goulbourn Archdiocese, together with a review of studies made of other Central schools within rural New South Wales.

LIKELY COSTS

$15,000 maximum

SOURCE OF FUNDS

The Catholic Education Office, Archdiocese of Canberra (sponsorship)

DEADLINES

Initial research completed March 1993.

CONTACT PERSON

Lee Borradale
Principal, Research Project
St Mary's School
England Street
WEST WYALONG NSW 2671

Ph: (069) 723003 Fax: (069) 723694

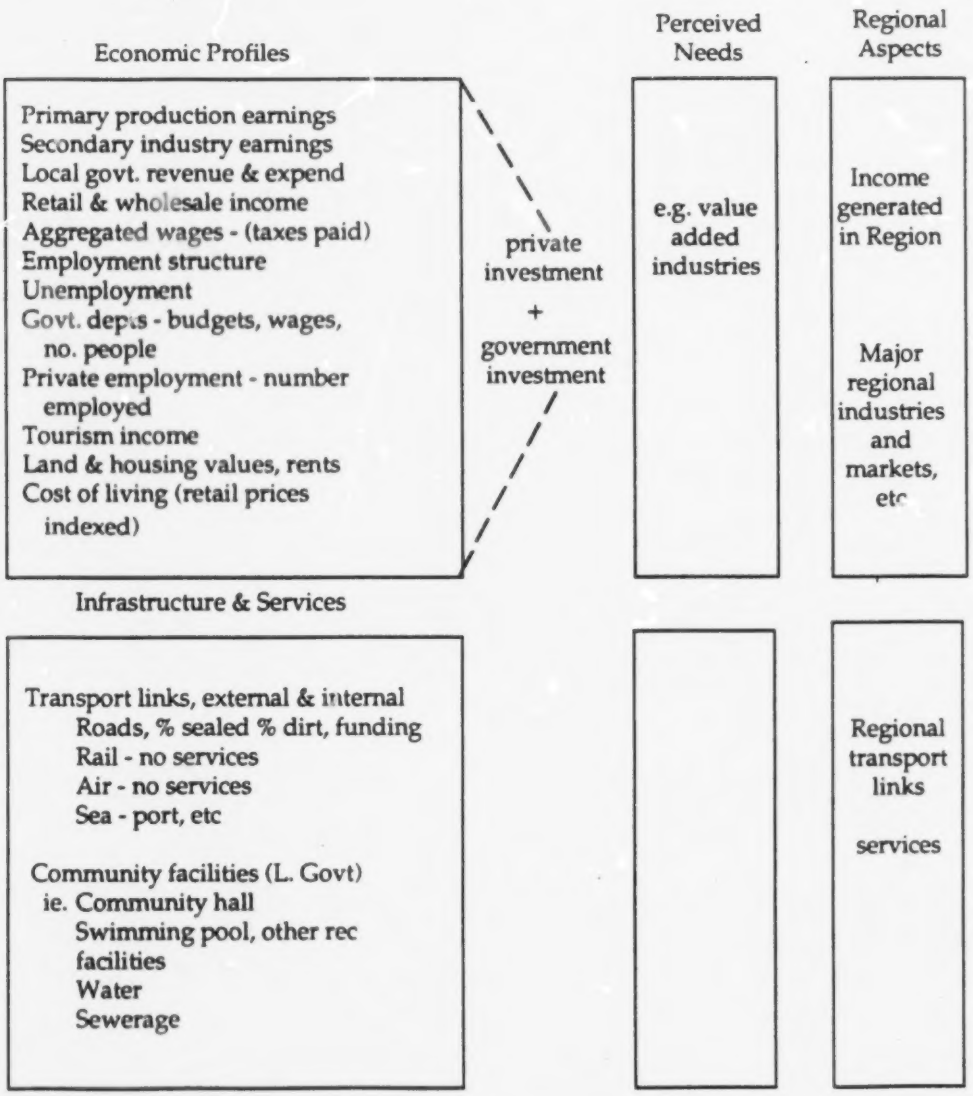
TITLE: Shire Profiles

RATIONALE

1. To enpower local communities
2. To provide better data for political decisions
3. To provide a better understanding of rural communities

DATA COLLECTION FRAMEWORK

1. Shire Profiles



Infrastructure & Services (Contd)	Perceived Needs	Regional Aspects
Community facilities & services (State Government) Health Education Youth employment Policy Sport, Recreation, Tourism Community facilities & services (Commonwealth) CES DSS Child Care facilities Aged Care Accommodation Professional services Primary production services		

Social Profile		
Age, sex, population figures ethnicity etc Govt. population/Private pop.		

Cultural Profile		
e.g. Large Aboriginal population (Non govt voluntary organisations (Value of work they do (social etc) Climate & local physical environment		

2. Changes which have occured over the last 10 years

Facilities and services lost and gained
Industries lost and gained
Downturns or upturns in particular industries
Potential changes or proposed

NB This framework to be sent to various organisations/ individuals for comment and refinement

Frameworks to be available to:

Local Shire Councils
Local Community groups
Government departments
Politicians
Potential investors

As a proposal to a policy unit in each state

Funding to be discussed further
e.g. Municipal Officers Associations
Local Government Shire bodies
Regional organisations such as Regional Development Corporations

Methodology yet to be determined

Coordination between north-south
? Appointment of 2 coordinators

CONTACT PERSON

Dr Phillipa Hudson
Director (Social Policy)
Office of Northern Development
GPO Box 4075
DARWIN NT 0801
Ph: (089) 413875

TITLE: **Successful Strategies for Coping with Community Crisis: an Exploratory Case Study Approach**

RATIONALE

To identify successful strategies/structures/processes.

To identify any common elements across the case studies.

To provide guidance for other communities in crisis.

PROPOSED ACTIVITIES

1. Set up a framework for the research — research design, design of instruments, guidelines for the case studies, etc.

2. Invite institutions or organisations to take on tasks in the local areas.

3. Conduct case studies in in communities with demonstrated successful outcomes (quantitative and qualititative data).

RESEARCH QUESTIONS

The group was interested in exploring the nature of effective school/community relationships and the extent to which these affected the school's ability to respond to adverse pressures (crises of whatever origin). It was suggested that this might be done by asking the following sorts of research questions:

- Who are the key personnel who contribute to successful response and what are the processes and strategies they employ in gaining successful outcomes?

- What are the skills that people (school personnel and community representatives) need in order to take successful action (e.g. process skills, accessing data, dealing with bureaucracies)?

- What are the significant community cultural factors that are implicated in successful outcomes?

- What are the significant community agencies that contribute to successful action (churches? community service groups? citizen groups?)?

- What responses have educational agencies (schools, TAFE, community colleges, etc) made to the pressures impinging on the community? Of these, which have been most successful in strengthening/supporting the community?

- How enduring are the structures and processes that support schools/community linkages? To what extent should they be ongoing? (or are ad hoc specific purpose responses more effective?) If continuous, what should be their role in periods of 'non-crisis'?

It was suggested that the research might be centred principally on a series of case studies of rural communities of different size and with different 'surface features' (industrial base, services retained, types of educational agencies, etc)

PARTICIPANTS

- Overseeing role by the Rural Research Centres - e.g. Toowoomba, Townsville, Bathurst, Hobart, with local involvement by invitation.
- School personnel (teachers, students, etc) to be involved where possible as co-researchers.

LIKELY COSTS

$14 000 to $18 000

POSSIBLE SOURCES OF FUNDS

State government development offices, community development agencies.

DEADLINES

Approx. 2-year project.

CONTACT PERSON

Mr Don Squires
Director
Centre for Research & Training in Rural Education
Charles Sturt University
BATHURST NSW 2795
Ph: (063) 332 442

RESEARCH PROJECT 9

TITLE: **Why do teachers not make the Xmas Party? Models of Community Participation used by Schools for the Successful Induction of New Teachers.**

RATIONALE

To improve the quality of teaching and learning for rural students through reduced teacher turnover and enhanced school and community interaction.

Parents, as an integral part of the community have a right to participate in the induction of teachers.

PROPOSED ACTIVITY

- Utilise existing State and non/State networks to identify exemplars.
- Develop a proforma to collect data concerning the exemplar and for validation.
- Identify the process by:
  - undertaking literature search,
  - seeking related prior work.
- Compare and contrast processes.
- Observe application of selected exemplars.
- Evaluate the effect of exemplars.
- Prepare documented report highlighting common elements in the exemplars.

OUTCOMES

- Compilation of series of exemplars for induction of new staff - promotional positions as well as new teachers.
- Provision of information to tertiary teacher preparation institutions/Employer groups/Community groups for consideration.

PARTICIPANTS

- Management group to identify appropriate Honours/Masters Coursework student(s): D. LLoyd, S. King, D. McSwan, A. Higgins
- Contact group for student is: D. LLoyd, S. King, D. McSwan, A. Higgins, L. Maher, A. Clarke, S. Clark, P. Jones, A. Sexton
- Supervisor of student becomes co-ordinator of reference group.

LIKELY COST

Less than $5000.00

POSSIBLE SOURCE OF FUNDS

Small injection from Higher Education Institution $500.00

Balance from originating State/Territory CAP

LINKS TO OTHER KNOWN PROJECTS

D. Squires
C. Boylan
Aboriginal Education workshop group
AISQ research reports.

DEADLINES

Identify student	March 1992
Exemplar collection	June 1992
Completion of Project	Nov 1992
Xmas Party	Dec 1992
Publication	Feb 1993

CONTACT PERSON

Dr David McSwan
Director
Rural Education Research & Development Centre
James Cook University
TOWNSVILLE QLD 4811
Ph: (077) 814111

TITLE: **Identify the characteristics surrounding program provision that would make education and training accessible to all people in remote and rural areas.**

RATIONALE

People in remote and rural areas appear to be excluded from post compulsory education and training in various ways as a result of current approaches to program provision. By obtaining input from people who are currently excluded or participate at low levels, we are more likely to accurately identify the difficulties associated with current delivery services and determine more appropriate means for program provision.

PROPOSED ACTIVITIES

1. Identify current or recent related research
2. Communicate intended proposal to target group, notify intended recipients of the intentions of the proposal and seek their support and/or participation.
3. Identify the current participation rates within designated small geographical areas (ABS collection districts).
4. Select a sample of the groups to be surveyed - where participation is low or non-existent.
5. Determine nature of data to be collected about the way in which we provide education and training opportunities.
6. Determine the most appropriate techniques of data collection.
7. Prepare, trial and modify the data collection method.
8. Collect and collate data.
9. Analyse data and extract conclusions.
10. Prepare a report identifying characteristics of approaches to program provision that would make education and training more accessible.
11. Disseminate report to identified target group; that is, all state/territory education departments and departments of employment & training, DEET, inservice providers such as universities and schools of education; institutions within the targetted regions

POSSIBLE PARTICIPANTS

Current researchers in tertiary institutions, members of RERA, graduate students. Potential for researchers in the Consortium for Educational Research in Rural Australia. Project officer may be a student from USQ or La Trobe University College of Northern Victoria, Bendigo.

Operational team
Barry Castley (Southwest Queensland
Ian Gibson (University of Southern Queensland)
Doug Lloyd (laTrobe University College of Northern Victoria)
Antony Homes (Northern Territory Department of Education) - statistical research
Miriam Daley (South Australian Department of Employment, TAFE)
Roslyn Stewart (Northern Territory Open College of TAFE)

LIKELY COSTS

$10000, assuming institutional adoption

POSSIBLE SOURCE FOR FUNDS

A.R.C., A.E.C., A.T.S.I.C., D.P.I.E., DEET, Professional Associations (Australian College of Education), new technology grants, state governments, ICPA

LINKS TO OTHER KNOWN PROJECTS

The NBEET National Rural Education Strategy

DEADLINES

To be completed by 31 December 1993

CONTACT PERSON

Mr John Stafford
Country Area Program Manager
416 King Street
WEST MELBOURNE VIC 3003

TITLE: **Analysis of the experiences and training needs of displaced rural workers attempting to establish themselves in alternative occupations, with a particular focus on education and training.**

RATIONALE

The current rural recession and structural adjustment processes have resulted in large numbers of people in rural industries being forced to establish themselves in alternative, or supplementary, occupations. The aim of the proposal is to evaluate the effectiveness of current advisory and education and training services in assisting them to do this. A parallel, related aim is to identify factors impeding effectiveness, including gaps in provision.

The purpose of the research is to provide agencies such as relevant government departments and education providers with better information upon which to base coordinated response strategies.

PROPOSED ACTIVITY

A case study approach is suggested. The following areas would be covered:

- identification of main groups involved
- description of these groups and reconstruction of the efforts they have made to re-establish themselves
- identification of these groups' education and training needs
- identification and evaluation of the training needs available and their effectiveness
- identification of gaps in provision
- recommendations concerning the nature of the provision and approaches to be adopted, including a description of successful exemplars

SUGGESTED PARTICIPANTS

- TAFE National Centre for Research and Development
- Department of Employment, Education and Training
- State Development authorities
- target groups
- rural counsellors

LIKELY COSTS

ca. $20 000, depending upon who undertakes the research

POSSIBLE SOURCE OF FUNDS

- TAFE National Centre for Research and Development
- Rural Access Program, Department of Primary Industry and Energy
- Department of Employment, Education and Training
- State Development authorities
- Queensland Government Graduate Trainee Projects Scheme

LINKS TO OTHER KNOWN PROJECTS

Clear links have not been established at this stage, but this topic is likely to concur with or overlap interests of Department of Employment Education and Training labour market analyses, Queensland Department of Primary Industry and other similar departments, Department of Social Security studies.

DEADLINES

This topic was seen as having high priority and lasting for one year

CONTACT PERSON

Dr David McSwan
Director
Rural Education Research & Development Centre
James Cook University
TOWNSVILLE QLD 4811
Ph: (077) 814111

TITLE: **A model for identifying and responding to the training needs of rural people**

RATIONALE

Although there have been a number of studies of rural training needs, it is uncertain whether an adequate model exists which takes into account the spectrum of influences on these needs, especially in rural communities in crisis. It is envisaged that such a model, perhaps developed from already existing but outdated models, could be used by any community wishing to respond appropriately to changing circumstances, and so be particularly cost-effective research.

IMPLEMENTATION

1. A literature survey is required to establish, in the first place, whether a model which is likely to be adequate is available.

2. Several case studies of communities which have carried out needs assessments will be required to test the available model(s) and assist in making judgements about modifications that may be required for these models. Such case studies should be those that also seek to provide data for other research proposals on the rural community in crisis.

PARTICIPANTS

Commonality with other research projects developed by the conference is desirable.

LIKELY COSTS

as above

LINKS WITH OTHER KNOWN PROJECTS

As above. The formulation of a model may be appropriate towards the end of several research projects in the general area of rural community response to economic change, as the relevance or otherwise of existing models is tested during the research process. A specific research project which should proceed in 1992 is a needs assessment of the NT pastoral industry (including Aboriginal communities on pastoral lands) which may be regarded as a collection of communities in different stages of crisis. The preparation stage of this project, to be conducted by the NT Rural College, Katherine, may provide some of the initial impetus to the formulation of an overall model.

CONTACT PERSON

Mr Geoff Gaskell
Northern Territory Rural College
PO Box 1196
KATHERINE NT 0851

RESEARCH PROJECT 13

TITLE: **Warlpiri Secondary Students and the Tanami Network: An Evaluation of the Educational Aspects of the Tanami Project as it Facilities the Delivery of Secondary Education Programs.**

RATIONALE

For some time, Warlpiri parents in the Tanami region of Central Australia have been concerned about the access of their children to formal secondary education programs, as well as their children acquiring traditional Warlpiri skills and understandings. The Tanami Project brings to Yuendumu and surrounding communities compressed video technology which is facilitating the delivery of secondary education programs in Yuendumu, thus enabling access to secondary education, and assisting, through students remaining in the community, further learning of traditional Warlpiri knowledge.

PROPOSED ACTIVITY

The research proposal will require negotiation with the Tanami stakeholders; the development of an action research type proposal is anticipated.

PARTICIPANTS

Members of the Tanami Management Board, Warlpiri secondary students and community members, Warlpiri teachers and the Principal from Yuendumu Community Education Centre, facilitator (possibly from Department of Education, Darwin).

LIKELY COSTS

Most likely to be met from within existing Northern Territory Department of Education resources.

POSSIBLE SOURCE OF FUNDS

Northern Territory Department of Education.

LINKS TO OTHER KNOWN PROJECTS

To be clarified.

DEADLINES

During the Rural Education Research Association Conference, February, 1992, a group of Conference participants used the compressed video technology to discuss with the Principal and Warlpiri teachers at Yuendumu, the use of the technology for the delivery of secondary education programs, and the conduct of a research project. The Warlpiri teachers agreed that an action research type approach to the project was important. They requested that further discussions take place to develop a research proposal along the lines suggested in the Conference Workshop Topic: The Remote

Aboriginal Education Project. This endorsement is a major milestone. Other milestones would be determined through the research proposal negotiation process.

CONTACT PERSON

Peter Jones
Aboriginal School Curriculum Materials Project
Department of Education
Darwin
Ph (089) 896283, Fax (089) 896363

TITLE: Modes of Delivering Secondary Education in Remote Aboriginal Communities.

RATIONALE

Aboriginal parents are increasingly calling for their secondary age children to have access to secondary level education programs in their home communities. Given the geographical and social diversity of Northern Territory remote contexts, it can be anticipated that a range of modes of delivery may be required to facilitate access to secondary programs.

PROPOSED ACTIVITY

The research project would seek to

1. identify, (possibly through the Primary Assessment Program) secondary age Aboriginal students who have the academic potental to undertake formal secondary level studies, and

2. research through discussion with parents, community members, and distance education providers, ways in which these students could access secondary level programs.

PARTICIPANTS

Aboriginal parents and community members, staff from the Evaluation, Research and Assessment Section of the Curriculum and Assessment Division, NT Department of Education, distance education providers, research facilitator.

LIKELY COSTS

To be determined, depending on facilitators availability to travel to the communities to be involved.

POSSIBLE SOURCE OF FUNDS

Northern Territory Department of Education, other?

LINKS TO OTHER KNOWN PROJECTS

The NT Department of Education is currently engaged in several projects involving or investigating the delivery of secondary education programs to Aboriginal students in remote locations. The Australian Education Council (AEC) Remote Areas Working Party on Provision of Access, and the Working Party on Technology Use would also be relevant contacts.

DEADLINES

To be determined.

CONTACT

Peter Jones
Aboriginal School Curriculum Materials Project
Department of Education
Darwin
Ph (089) 896283, Fax (089) 896363